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BRITISH MUSEUM
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NATURAL HISTORY

Bournemouth Natural Science Society

Proceedings

(1981-82)

VOLUME LXI

PART 4

INTRODUCTORY NOTE

The objects of the Society are declared by the second of its rules to be "the promotion of the study of Science in all its branches, and of Public Education by means of Lectures, Field Meetings, the Reading and Discussion of Papers, and in any way that the Council of the Society shall deem advisable".

The branches of Science at present represented are as follows:- Archaeology and History, Astronomy, Botany, Entomology, Geography, Geology, Ornithology, Photography, Physics and Chemistry, and Zoology.

Frequent meetings are held comprising Lectures and Demonstrations on subjects of scientific interest, illustrated by lantern slides, films, the epidiascope, diagrams, specimens and experiments.

Field Meetings are held in various suitable places in the neighbourhood of the town, or sometimes Coach Tours are arranged to districts of scientific interest at a distance.

The management of the Society is vested in a Council, which is elected at the Annual General Meeting.

The Society possesses a Library available for the use of Members. Books may, under certain conditions, be borrowed by Members, and there is a Reading Room in which works of reference may be consulted. The Museum contains many valuable scientific collections and specimens. There is a well-equipped Dark Room for the use of Members interested in Photography.

Members are elected by the Council and pay an annual subscription of £7 for full membership. Life Subscription £70. Family Subscription (for members of a family living in the same house) is as follows: First Adult Member £7, additional Adult Members £3. Associate Membership Subscription is £1 and is restricted to young people up to 18 years of age, if a bona-fide full time student, up to 21 years of age.

Country Membership applies only to those Ordinary Members who reside permanently Outside the boundaries of Bournemouth, Christchurch and Poole.

Subscriptions of Country Members are, First Adult Members £3.50, additional Adult Members, same family, £2.

Special subscription for visitors to Bournemouth, £1 per month.

Members may enter into a Deed of Covenant to pay subscriptions by Banker's Order over the period of four years. At present, the Society benefits by approximately 43p on each £1 subscribed in this way. Full particulars from the Hon. Treasurer on request.

A three-monthly programme, giving full details of all meetings is supplied to every Member and a Volume of Proceedings is published each year of which each Member receives a copy (additional members of a family living in the same house on application to the Secretary).

Further particulars and membership application forms may be obtained from the Honorary Deputy Secretary, Bournemouth Natural Science Society, 39 Christchurch Road, Bournemouth.

BRITISH MUSEUM
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NATURAL HISTORY

PROCEEDINGS
# of the
Bournemouth Natural Science Society

VOLUME LXI
PART 4

1981-82

Edited by
S. C. S. Brown

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A set of back numbers may be consulted in the Society's Reference Library or individual Volumes borrowed from the Lending Library on application to the Librarian.

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BOURNEMOUTH NATURAL SCIENCE SOCIETY

OFFICERS AND COUNCIL FOR 1982-83

N.B. - University degrees and other qualifications are inserted only at the first mention of names.

President:
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Deputy Chairman: G. TEASDILL

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M.P. BENTLEY, O.B.E., C.ENG.
W.J. GUSCOTT, C.ENG., F.I.E.E.

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Mammalia: MISS K. M. BENNETTS
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Members' Day: MRS. H.M. DICKINSON
Cine Programme: F.B. MARTIN, F.C.I.I.

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COMMITTEES, 1982 - 83

Finance and General Purposes:

Chairman: J.G. PARKINSON

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Museum:

Chairman: W.A. BRAY

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A. ANDREWS

Library:

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House:

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MRS. W. CHOME, F.R. WATSON, W.H. LEE

Garden:

Chairman:

MRS. R.C. CRANE, MRS. A.K. HUNT, MRS. L.V. NICKLEN, MRS. S. THOMAS, F. OLDHAM, MRS. W. CHOME

Tea:

Chairman: MRS. M.K. PARKINSON

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Entertainment:

Chairman: MISS R. WINTER

MISS M. ALLEN, MRS. M. ARNOLD, MRS. D. DAIN, MRS. L.V. NICKLEN, MRS. P. RUST, MISS W. SAUNDERS, MRS. E. MAYEWSKA

BOURNEMOUTH NATURAL SCIENCE SOCIETY
LIST OF MEMBERS

Revised to 31st October 1982

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* HONORARY MEMBER	L LIFE MEMBER
V VICE-PRESIDENT	A ASSOCIATE MEMBER
+ PAST PRESIDENT	

The year of election is given before the name of each member
Unless otherwise stated all addresses are in Bournemouth

1974		Adlard, Mrs. L.B.	50 Seaward Avenue, BH6 3SH
1980		Allan, Mrs. G	29 Dulsie Road
1963	*	Allen, Miss M.	174 Holdenhurst Road, BH8 8AS
1971		Allin, Mrs. J.M.	14 Oakwood Road, Highcliffe
1960		Alsford, C.	20 Church Road, Ferndown, BH22 9EU
1960		Alsford, Mrs. J.R.	" " "
1981		Ambrose, H.R.	17 Woodlands Close, Bransgore
1976		Ames, Dr. G.H.H., M.R.C.S., L.R.C.P.,L.D.S.	C13 San Remo Towers, Sea Road
1968		Ames, W.J.C.	3 Rothesay Road, BH4 9NH
1968		Ames, Mrs. D.A.	" " "
1977		Andrew, A.,M.A.	F7 Pine Grange, Bath Road
1978		Andrew, Miss E.	34 Tollard Court, West Hill Road
1970		Andrews, Mrs A.	41 James Road, Branksome, BH12 1EA
1981		Archard, E.H.	1 Beechwood Avenue, BH5 1LX
1981		Archard, Mrs. I.L.M.	" " "
1967	L	Arnold, Mrs. M.	1198 Christchurch Road, BH7 6DY
1982		Ascher, P.	4 Carlton Road, Caversham, Reading
1982		Ascher, Mrs. E.R.	" " "
1975		Ash, Miss C.C.	2 Pendennis, 7 Derby Road
1981		Ashford, Miss G.S.	175 Belle Vue Road
1975		Athill, Col. G.J.,M.B.E.,F.L.W.S.P.	5 Cresta Gardens, Ferndown, BH22 8LY
1975		Athill, Mrs J.I.	" " "
1982		Atley, Mrs C.E.	6 Solent Road
1978		Auld, Mrs. K.R.	25 Ravenscourt Road
1974		Ayles, Mrs. N.	6 Slavanka Court, 44 Belle Vue Road
1974		Ayton, D.J.	201 Kinson Road, BH10 5HB
1977		Ball, Miss B.M.	25a Dingle Road
1966		Band, Miss E.,B.A.	5 Boscombe Cliff Road, BH5 1JL
1981		Barnett, Miss L.M.	26 Hartley Down, 60 Christchurch Road
1978		Barrett, Miss M.	1 Belmont Avenue
1978		Barrett, Mrs. J.H.	11 - 318 Poole Road, Poole, BH12 1AN
1971	L	Bartram, T.,F.N.I.M.R., F.R.S.H.,F.H.A.	6 Browning Avenue, BH5 1NN
1981		Bates, Mrs. G.	10A Glen Road
1978		Bateson, Miss J.	8 Meadow Court, Leigh Common, Wimborne
1982		Baxter, Miss K.C.	13 Glencoe Road
1980		Bell, Mrs. A.M.	A36 San Remo Towers, Sea Road
1974		Bell, Miss D.H.	19 Gainsborough Road, BH7 7BD
1944	*+V	Bell, T.M.,B.A.,M.B.,B.CH.	5a Stourwood Avenue, BH6 3PN
1976	A	Bell, F.G.T.	32 Ravine Road
1963	*+V	Bennetts, Miss K.M.,F.Z.S.	29 Belle Vue Gardens, Belle Vue Road
1978		Bennett, Mrs. J.	15 Mude Gardens, Mudeford
1979		Benson, Mrs R.	6 Moat Lane, Barton-on-Sea
1980		Bentley, M.P., O.B.E.,C.ENG.	5 Bournewood Drive
1980		Bentley, Mrs. E.P.,A.T.D.	" "
1947		Berrill, Miss M.E.	41a Cavendish Road, BH1 1RA
1967		Bettell, Miss I.M.	4 Curzon Court, 11 Portarlington Road
1972		Birkinshaw, D.	30 Lowther Road, BH8 8NG
1951	L	Blandford, Mrs. R.I.	B18 Elizabeth Court,Grove Road

1964		Blower, Miss M.	32 Selkirk Close, Merley, Wimborne
1981		Boardman, R.D.	92 Hillside Drive, Christchurch, BH23 2TD
1981		Boardman, Mrs.	" "
1981		Bodle, Mrs D.A.	46 Lake Avenue, Hamworthy
1980		Bowe, Miss D.	70 Charminster Avenue, BH9 1SE
1978		Bowler, F.C.,B.SC.	8a Overbury Road, Poole
1980		Bragg, Miss J.M.	2 Berkley Manor, 317 Poole Road, Poole BH12 1AA
1969		Bray, W.A.	234 Ringwood Road, Leigh Common, Wimborne, BH21 2DE
1975		Brazell, Mrs. M.	Surrey Lodge, 16 St. Winifreds Road
1968		Brazier, Miss M.A.	4 Cedar Avenue, BH10 7EF
1970		Brooks, J.L.	7 Milton Road, Wimborne, BH21 1NY
1970	+VL	Brooks, Miss M.M.,PH.C.,M.P.S., F.R.S.H.,F.R.E.S.	" " "
1978		Brotherton, Miss H.J., J.P.	58 Pearce Avenue, Poole
1937(1967)	+V	Brown, S.C.S.,F.D.S.,R.C.S., L.D.S.	158 Harewood Avenue, BH7 7BG
1962		Brown, Miss V.C.	9 Laverstock, Boscombe Cliff Road
1982		Burch, B.O.	Flat 4, 5 Pine Tree Glen
1977		Burrows, Mrs. B.A.	70 Redhill Drive
1930		Bury, Miss G.J.	11 Rossley Close, Christchurch
1973		Butcher, Mrs. C.E.	10 Victoria Gardens, Fordingbridge
1977		Butcher, Mrs. M.	32 Dudsbury Avenue, Ferndown
1982		Butler, Mrs G.I.	E42 San Remo Towers, Sea Road
1977		Butt, Mrs. J.M.	6 Dingle Road
1979		Campbell, Mrs. M.A.	22 Cheam Road, Broadstone
1964		Cartwright, Miss D.E., M.B.E.	31 Wistaria House, Redhill Drive
1977		Chaney, H.L.,F.R.I.C.S.,F.A.I.	72 Parkstone Avenue, Poole
1977		Chaney, Mrs. I.	" " "
1974		Channon, W.V.K.	36 Studland Road, BH4 8JA
1974		Channon, Mrs. P.G.	" "
1942	*	Chomé, Mrs. W.	3 Sandykeld, 26 Manor Road
1968		Clamp, Miss D.	6 Hengistbury Road, Barton-on-Sea
1974	L	Clapton, Miss D.E.	1 Alington, 25 Marlborough Road, BH4
1976		Clarke, Mrs. D.E.	23 Victoria Gardens, Fordingbridge
1981		Clarke, Major F.X., B.A.,A.C.P.	39 Broadway, BH6 4EE
1977		Clasby, P.S.	12 Haglane Copse, Lymington
1963	L	Clode, J.C.	4 Honeywood House, 28/30 Alington Roa, Canford Cliffs
1973		Clode, Mrs. V.M.	" " " "
1977		Coates, Miss J.,B.A.	6 Riverside Court, 23 Surrey Road
1977		Coates, Miss L.,B.A.	34 Hillside Drive, Wallisdown, BH12
1958	*	Cocke, M.H.	St. Ives House, Horton Road, St. Ive Ringwood
1975		Cole, Mrs. J.	34 Little Forest Road
1981		Colyer, L.E.	51 Parkwood Road
1981		Colyer, Mrs. W.M.	"
1970		Cooke, F.W.	14 Meadow Close, Ferndown, BH22 8RN
1941	L	Cooper, Mrs. E.M.	B18 Elizabeth Court, Grove Road
1982		Cooper, Miss K.	49 Christchurch Road
1976		Copp, Mrs. V.E.,B.A.	84 Brackendale Road
1981		Corston, Miss L.J.	23 Meyrick Court, St. Winifred's Roa
1971		Cotton, Mrs K.	37 Cedar Manor, 19/21 Poole Road, Po
1972		Cousins, Mrs. A.	51a Newstead Road, BH6 3HL
1978		Cowan, Miss A.F.	14 The Lawns, Waterford Road, Highcl
1956	L	Cox, Miss M.G.E.	4 The Maitlands, 8 Portarlington Roa
1973		Crane, Mrs. R.C.	
1973	+V	Crawshaw, T.A.,F.M.INST.M.C.	D4 Exbourne Manor, 37 Christchurch R
1972		Crawshaw, Mrs. F.M.	" "
1977		Crompton, Mrs. J.E.	148 Evering Avenue, Poole
1977		Croad, Mrs. H.S.	Rivercroft, Spetisbury, Blandford

1982		Crooks, Miss L.	42 Belle Vue Gardens, Belle Vue Road
1981		Cuff. Mrs. L.	8 Pinelands Court, 128 Richmond Park Rd
1975		Curtis. Mrs. B.	114 Cutlers Place, Wimborne

1975		Dain, F.	111 Bader Road, Canford Heath, Poole
1975		Dain, Mrs. D.	" " "
1976		Davis, Mrs. B.	5 Athelney Court, 24 Grove Road
1976		Davis, Miss M.W.S.	26 William Road
1979		Davies, Miss E.L.	15 Amberley Court, Bath Road
1967		Deacon, Miss M.G.K.	42 Belmont Road, Poole, BH14 0DB
1981		Dedman, Rev. S.C.	East Barn, 110B Goblins, Iwerne Minster
1981		Dedman, Mrs. M.M.	" " "
1975		Denison, Mrs. N.	36 Bryanstone Road, BH3 7JF
1980		Diamond, J.B.,B.SC.	121 Norton Road
1980		Dickinson, Mrs. M.A.	E21 San Remo Towers, Sea Road
1975		Dickinson, Mrs. H.M.	9a Moorland Road
1978		Dixon, Miss D.M.	26 Bourne Pines, Christchurch Road
1977		Dominy, J.N.	52 Blakehill Crescent, Poole
1977		Dominy, Mrs. B.J.	" " "
1972		Dolamore, Mrs. M.	15 Dene Walk, Ferndown
1973		Donnelly, J.F.	3 Buce Hayes Close, Highcliffe
1973		Down, Mrs. A.M.	62 Huntly Road
1980		Downes, J.P.	10 Leslie Road, BH9 2JH
1970		Draper, G.S.	44 Brackendale Road, BH8 9JA
1970		Draper, Mrs. O.G.	" " "
1979		Dring, Miss F.	25 Wortley Way, Ferndown
1953		Dudley, D.F.	17 Widdicombe Avenue, Poole
1955		Dudley, Mrs. I.	" " "
1981		Dukes, Mrs. R.A., B.SC.	50 West Way, Broadstone
1972		Dunfee, Miss E.G.	5 Barton Drive, Barton-on-Sea
1975		Dunstan, Miss E.M.	21b Alumhurst Road

1978		Eames, K.M.,F.C.A.	152 Cranleigh Road
1978		Eames, Mrs. I.L.	" "
1967		Earl, Mrs. J.C.	10 Merrifield Drive, Broadstone
1974		Easterbrook, L.	4 The Pines, 38 The Avenue, Poole
1974		Easterbrook, Mrs. F.P.	" " "
1979		Eaton, W.A.	9 Queens Park Avenue
1965	V*	Edwards, Brig. A.B.D.,C.B.E.,M.C.	234 Burlington Hotel, BH5 1AD
1979		Edwards, H.L.,A.M.INST.E.	1 Crescent Court, The Crescent
1979		Edwards, Mrs. E.	" " "
1979		Elgood, J.H.,M.A.	26 Walkford Way, Highcliffe
1979		Elgood, Mrs. M.L.	" " "
1963		Elliott, Mrs. D.	85 South Road, BH1 4PB
1979		Elliott, Miss M.	7 The Grove, Christchurch
1976		Erskine, S.L.W.,M.D.,D.P.H.	16 Oakwood Road, Christchurch
1976		Erskine, Mrs. K.M.	" "
1982		Evelyn, Mrs. M.	30 Mayford Road, Poole
1955	*+V	Exton, Miss F.M.,B.A.	4 Worthington Crescent, Poole
1960		Exton, Miss J.M.	" " "

1953	L	Farwell, Mrs. S.M.A.	Latch Farm, Fairmile, Christchurch
1977	L	Fewkes, Miss M.H.	175 Belle Vue Road
1965		Fildes, Mrs. E.M.	45 Wickfield Avenue, Christchurch
1976		Fisher, G.	36 Burnham Drive
1976		Fisher, Mrs. N.	" "
1981		Fitsgibbon, Miss M.T.	41 Homeleigh House, 52 Wellington Road
1980		Fitzroy-Simmons, A.S.	1 Riviera Court, Suffolk Road, BH2 5SY
1980		Fitzroy-Simmons, Mrs. G.M.	" " " "
1982		Foot, Miss G.M.	170A Columbia Road
1975		Ford, Mrs J.	43 Belle Vue Gardens, Belle Vue Road
1979		Forrest, L.G.	30 Meyrick Court, St. Winifred's Road
1970		French, Mrs. H.M.	1 Parkview, 16 Braidley Road
1981		Fulford, Mrs. H.J	21 Victoria Gardens, Fordingbridge

1982		Gandy, F.W.	75 Littledown Avenue
1981		Gard, Mrs. I.,B.A.	D6 Exbourne Manor, 37 Christchurch Road
1975		Gardiner, J.A.	49 St. Catherines Road, BH6 4AQ
1982		Gaskell, Mrs. E.	B13 San Remo Towers, Sea Road
1978		Gaston, A.E.	21 Chessel Avenue
1974		George, W.L.	8 Glendale Close, Wimborne
1974		George, Mrs. J.	" " "
1972		Gillett, Miss M.M.A.	16 Talbot Avenue, BH3 7HX
1980		Glass, A.	6 Horseshoe Court, Dean Park Road
1980		Glass, Mrs. P.	" " "
1981		Gould. A.R.	11 The Boltons, Portarlington Road
1981		Gould, Mrs. M.C.	" "
1977		Gray, Mrs. J.F., B.A.	62 Dulsie Road
1977		Green, Mrs W.	12 Marsh Court, Clifton Road
1982		Grieve, Miss J.N.	33 Norfolk Avenue, Christchurch
1981		Griffiths, G.G.	2 Eversleigh, 48 West Cliff Road
1981		Griffiths, Mrs. T.D.	" " "
1973		Griffiths, Mrs. R.A.	C23 San Remo Towers, Sea Road, BH5 1JT
1973		Gunter, Mrs. R.B.	13 Annerley Road, BH1 3PG
1978		Guscott, W.J.,C.ENG.,F.I.E.E.	7 Wick Lane
1982		Halford, Miss A.	15 Poole Road
1978		Hadfield, W.,O.B.E.,M.A.,M.I.E.E.	Applegarth, Orchard Avenue, Windsor
1971		Hall, J.O.	36 Keith Road, BH3 7DU
1971		Hall, Mrs. D.M.	" "
1972		Hanna, H.J.A.	6 Cliffe Road, Barton-on-Sea
1971		Hanna, Mrs. K.A.,M.A.	" "
1972		Harding, R.	3 Portchester Place,BH8 8JS
1976		Hardy, W.	1 Gorsecliff Court, 5 Boscombe Spa Road
1976		Hardy, Mrs. E.	" "
1978		Harwood, R.E.	10 Blakehill Crescent, Poole
1978		Harwood, Mrs. A.M.	" "
1976	L	Hartwell, Miss E.I.	32 Parley Road
1982		Harrison, D.R.	23 Broadway, BH6 4EE
1982		Harrison, Mrs. M.J.	" "
1961		Harvey, Mrs. F.E.,M.B.,CH.B.	C21 San Remo Towers, Sea Road, BH5 1JT
1964		Hatton, R.H.S.,M.A.	Pine Cottage, Lower Rowe, Holt
1973		Hayball, Miss G.	Flat 21/29-33 Bournemouth Road, Poole
1969		Hayter, Miss E.	38 Edgehill Road, BH9 2PQ
1972	L	Healey, Mrs. R.	5 Leven Avenue, BH4 9LH
1971		Heaton, Mrs. M.I.	8 Mayfair, 74 Westcliff Road, BH4 8BG
1975		Heath, G.W.	3 Wyndham Road, Parkstone
1975		Heath, Mrs. M.R.	" "
1981		Hewitt, Mrs. F.	C8 St. Catherines Court, 35 Christchurc Road
1982		Higgins, G.W.,B.SC.,M.I.E.E.	66 Huntly Road, BH3 7HJ
1982		Higgins, Mrs. B.C., S.R.N.	" "
1981		Higgs, Miss B.	8 Albemarle Court, 22 Manor Road, BH1 3JA
1977		Hight, Mrs. I.E.	55 Rothesay Drive, Highcliffe
1973		Hilton, J.	9 South Hill Grove, Harrow, Middx.
1973		Hilton, Miss M.L.,B.SC.,PH.D.	" " "
1962	*	Hipperson, Miss M.	69 Headswell Avenue, BH10 6JZ
1982		Hodeson, Mrs. E.K.	D4 Halebrose Mansions, Belle Vue Road
1979		Hodgetts, Mrs. E.P.	C11 35 Christchurch Road
1974		Holmes, Mrs. H.N.	4 Chepping Dene, 15 Wimborne Road
1961	*L	Hooton-Smith, Mrs. B.E.	A5 Twynham Court, 20 Dean Park Road
1981		Hopkins, P.G.H.,B.A.,B.SC.	7 Wallace Court, 39 Wallace Road, Broadstone
1978		Hopwood, Mrs. J.	44 Verwood Crescent
1979		Horley, Mrs. M.	2 Waverley, 25 Grosvenor Road
1982		Horsfield, Mrs. M.	36 Hendford Road
1979		Hortop, J.R.	1 Priory Gardens, Spetisbury
1982		Hubbard, Mrs. M.C.	10 Harbour Road, BH6 4DD

1980		Huggins, S.	33 Hartley Down, 60 Christchurch Road, BH1 3PJ
1954	*+VL	Hunt, Mrs. A.K., B.SC.	Flat 1, 5 Alton Road, Poole
1979		Hyde, R.A.	7 Coy Pond Road, Poole
1979		Hyde, Mrs. B.F.	" "
1975		Jardine, Rev. D.E.C.,M.A., DIP.THEOL.	St. Saviours Vicarage, Colemore Road
1972		Jarrold, Miss C.W.	B35 San Remo Towers, Sea Road
1945		Jenkins, Miss P.	School Cottage, Hinton, Christchurch
1976		Jenkins, Miss C.	1 The Links, Queens Park West Drive
1980		Jenkinson, A.G.	4 Warren Edge Road, BH6 4AU
1980		Jenkinson, Mrs. I.M.	" "
1980		Jessop, Wing-Comdr. L.A., O.B.E.	21 King's Park Road, BH7 7AE
1980		Jessop, Miss O.G.	12a St. Augustin's Road
1982		Jones, Mrs. I.E.	Ernest Burdon House, East Cliff
1976		Jordan, L.E.	18 Braidley Road
1976		Jordan, Mrs. V.M.	" "
1978		Joseph, S.B.,A.MUS.,T.C.L.	1/31 Knole Road
1979		Kemp, Mrs. D.F.	68 The Avenue, Moordown
1970		Kent, H.M.,B.SC.	62 Canberra Road, Christchurch
1970		Kent, Mrs. M.	" " "
1977		Keohane, Mrs. C.M.	16a Princess Court, Princess Road, Poole
1968		Kernot, Miss F.L.	28 Braidley Road
1977		Langford, H.H.C.	8 Gordon Court, 38 Surrey Road
1980		Laughrin, I.G.	46 Smugglers Lane North, Highcliffe
1980		Laughrin, Mrs. H.M.	" " "
1979		Lawrence, H.	27 Gladstone Road West, BH1 4HZ
1979		Lawrence, Mrs. K.	" " "
1982		Layton. S.F.	7 Sycamore Close, Christchurch
1979		Leapman, P.E.,M.P.S.	39 Manor Road
1979		Leapman, Mrs. P.G.	" "
1970		Ledger, A.L.	7 Albemarle Road, BH3 7LZ
1981		Lee, Mrs. A.	D1 Exbourne Manor, 37 Christchurch Road
1979		Lee, D.C.,C.B.E.	73 Newstead Road, BH6 3HC
1979		Lee, Mrs. W.	" " "
1966	+V	Lee, W.H.	18 Ravenshall, West Cliff Road, BH4 8AT
1967		Lee, Mrs. L.B.	" " "
1975		Lees, R.G.	25 Thornbury Road, BH6 4HS
1981		Leonard, Mrs. A.C.	12 Argyle Road, Christchurch, BH23 3NW
1976		Lilly, G.W.	78 St. Lukes Road
1970		Lilly, Mrs. P.	" " "
1975		Lister, Dr. M.,M.SC.,PH.D.	6 Katterns Close, Christchurch
1934	*+V	Lowther,Miss D.M., B.SC.	15 Mayfield Avenue, Poole
1976		Lund, Mrs. M.S.	8 William Road
1981		Lunn, C.E.	7 Belle Vue Close, BH6 3QW
1981		Lunn, Miss B.E.	" "
1969		McAlpine, Miss G., B.A.	10 Western Avenue, Barton-on-Sea
1956		McClay, H.,M.S.M.,A.C.I.I.	6 Fountain Court, Durley Gardens
1958		McClay, Mrs. D.G.	" "
1974		McMullin, Mrs. E.G.	151 Burlington Hotel, Owls Road
1981		Maddocks, H.J.	5 Huntfield Road, BH9 3HN
1973		Maddox, C.B.M.	31 Egerton Road, BH8 9AY
1956	*	Maddox, Mrs. L.M.	" "
1982		Mahon, Mrs. N.	8 Thessaly Court, 7 Crabton Close Road
1978		Mann, C.W.	9 Endfield Close, Christchurch
1978		Mann, Mrs. M.	" "
1970		Mansfield, Mrs. F.M.	28 Barrie Road
1977		Marcroft, Mrs. R.M.	4 Heatherlea Road
1946		Marshall, Miss D.	76 Palace View, Bromley, Kent
1978		Martin, Mrs. D.	30 Hull Road
1967		Martin, F.B.,F.C.I.I.	C25 San Remo Towers, Sea Road, BH5 1JT

1981		Martin, Miss N.	87 Haviland Road
1981		Marsh, A.W.	Broadacres, Oakley Straight, Wimborne
1981		Marsh, Mrs. J.C.	" " "
1979		Mason, Mrs. P.M.	51 Durrington Road
1978		Mayer, F.A.	Teal Cottage, Windmill Lane, Ringwood
1981		Mayewska, Mrs. E.,M.A.	10 Villette Close, Christchurch
1976		Merchant, Miss J.M.	7 Stourton Court, Marlborough Road
1973		Merry, Mrs. H.E.	10 Victoria Gardens, Fordingbridge
1956		Middlemast, A.H.	86 Hengistbury Road, BH6 4DJ
1964		Middleton, W.J.	74 Compton Avenue, Poole
1982		Millard, J.R.	2 Torbay Road, Poole
1981		Miller, H.F.	70 Stamford Road
1981		Miller, Mrs. G.K.M.	" "
1976		Mills, W.G.Q.,M.B.,B.CH.,F.R.C.S.	66 Blake Hill Crescent, Poole
1959	V*	Mitton, J.C.	3 Gainsborough Road, BH7 7BD
1970		Mitton, Mrs. M.	" "
1972		Moore, W.H.	13 Eldon Road, BH9 2RT
1973		Moore, Mrs. L.	" "
1981		Morgan, W.D.	47 Sandecotes Road, Poole, BH14 8PA
1979		Morris, Mrs. B.M.	4 Westcliff House, 45 Westcliff Road BH4 8AZ
1973		Morris, T.E.	Sandpit, Frogham Hill, Fordingbridge
1973		Morris, Mrs. J.F.	" " "
1981		Mortimer, Miss D.J.	16 Mallard Road
1981		Mouat, G.F.W.	20 Endfield Road
1981		Mullin, Mrs. B.M.R.	43 Hurn Way, Christchurch
1973		Nash, G.,M.A.,F.R.A.S.	12 St. Annes Road, Upton, Poole
1981		Neagle, Mrs. J.I.,S.R.N.	8 Pendennis, 7 Derby Road, BH1 3PU
1974		Nicklen, E.W.	77 Holdenhurst Avenue, BH7 6RB
1967		Nicklen, Mrs. L.V.	" " "
1981		Nicol, T.A.	4 Merriefield Drive, Broadstone
1968		Noll, Miss C.F.	2 Pinecliff Avenue, BH6 3PZ
1977		North, Mrs. J.L.	12 Littledown Avenue
1977		Norvall, Miss A.C.	23 Exton Road
1982		Obee, Mrs G.E.	16 Southwick Road, BH6 5PT
1979		O'Connor, T.	48 Knyveton Road,
1957		Odell, Mrs. G.C.	4 Barclay Mansions, St.Valerie Road
1970		Offen, E.C.	4 Ranelagh Road, Highcliffe, Christchu h
1970		Offen, Mrs, M.J.	" " "
1982		O'Hara, Mrs. J.	11 Roberts Road
1971	+V	Oldham, F.,J.P.,M.A.,B.SC., F.INST.P.	19 Dingle Road, BH5 2DP
1975		O'Neill, Miss G.E.	15 The Chantry, Madeira Road
1972		Ottley, P.W.,C.ENG., M.I.E.E.	5 Webbs Close, Ashley Heath, Ringwood
1979		Palmer, Miss D.I.	49 Columbia Road
1970		Parish, D.	5 Venator Place, Munster Park, Wimborn
1970		Parish, Mrs. F.M.	" " "
1969	L	Parkinson, J.G.	45 Belle Vue Road, BH6 3DF
1969	+VL	Parkinson, Mrs M.K.	" "
1971		Pawson, Miss K.M.	39 Queen Mary Avenue, BH9 1TT
1963		Payne, Miss H.I.	83 St. Luke's Road, BH3 7LS
1980		Pearce, Mrs. B.	24 St. Alban's Avenue, BH8 9EE
1916	*L	Penrose, Miss F.	Little Picket, Hightown, Ringwood
1981		Pinson, D.J.	24 Maundeville Road, Christchurch
1981		Pinson, Mrs. M.H.	" "
1977		Plummer, Mrs G.	33 Branksome Hill Road
1980		Poupard, W.W.	1 Centenary Court, 19 Burton Road, Po BH13 6DT
1980		Poupard, Mrs J.R.	" "
1971		Price, Miss E.	9 Windermere Road, BH3 7LF
1973		Puckett, Mrs. M.	47 Somerley Road, BH9 1EN

1967		Purdy, Mrs. K.M.	158 York Road, Broadstone
1976		Purnell. Miss E.J.	70 Belle Vue Gardens, Belle Vue Road
1982		Pursey, Mrs. R.M.	1 Stour View Court, 118 Hurn Road, Christchurch
1979		Randall. Mrs. C.	3 Redhill Close
1975		Ratcliffe, G.L.,F.C.A.	4 Woodland Avenue
1975		Ratcliffe, Mrs. M.N.	" "
1980		Ratray, W.J., C.ENG.	26 Dereham Way, Poole
1980		Ratray, Mrs. S.	" "
1980		Raymond, Miss A.	11 Boreham Road, BH6 5BW
1951	L	Read, Mrs. H.A.	15 Carbery Avenue, BH6 3LL
1978		Reed, Mrs. J.M.	
1981		Reeve, Mrs. B.M.	33 Hillman Road, Poole, BH14 9EU
1979		Renshaw, Mrs. M.E.	5 Southwick Place
1982		Roach, Miss M.J.	25 Twemlow Avenue, Poole
1980		Roberts, Miss J.	B1 Halebrose Mansions, Belle Vue Road
1977		Robins, W.O.,A.R.I.C.S.	85 Petersfield Road
1979		Robins, Mrs. F.V.	" "
1980		Robinson, E.T.W.,M.A.,F.R.G.S.	9 Heath Farm Close, Ferndown
1980		Robinson, Mrs. E.F.S.	" " "
1981		Robinson, E.V.	158 Belle Vue Road
1963	L	Rossiter, Mrs. D.M.	5 Park Homer Road, Colehill, Wimborne
1970		Rowe, Miss L.M.	23 The Bluff, Headswell Crescent
1967		Russell-Cotes Art Gallery	East Cliff, Bournemouth
1975		Rust, Mrs. P.	95 Holdenhurst Avenue, BH7 6RB
1970	L	Ruston, J.R.	Flat 1, 3 Moorland Road, BH1 3ST
1980		Saunders, Miss B.A.	Dormer Cottage, Gaunts Common, Wimborne
1975	L	Saunders, Mrs. M.W.	2 Memorial Homes, Castle Lane
1954		Saunders, Miss W.A.	10 Duncliff Road, BH6 4LJ
1982		Schaufelberger, Rev. J.H.	The Vicarage, Wantage
1970		Scott, S.A.	6 The Close, Charlton Marshall, Blandford
1976		Scutter, Mrs. L.M.	12 Oakwood Road, Highcliffe
1982		Segal, Miss J.	25 Twemlow Avenue, Poole
1960	*	Sephton, Mrs. N.,M.B.,CH.B.	1/4 Talbot Avenue, BH3 7HU
1951		Sewell, Mrs. I.	4 Maundeville Crescent, Christchurch
1977		Shannon, Mrs. F.M.	3 Surrey Gardens
1982		Shaw, L.F.,B.SC.,M.I.MECH.E.	61 Haven Road, Poole
1982		Shaw, Mrs. J.	" "
1977		Sheldon, J.L.,B.SC.	53 Steepdene, Poole
1981		Shepherd, L.H.	1 Coronation Avenue
1981		Shepherd, Mrs.B.M.	" "
1971		Sherrington, Miss D.	57 Gladstone Road West, BH1 4HZ
1968		Shewell, Capt. A.V.	F10 Pine Grange, Bath Road
1982		Shewring, Mrs. J.,M.A.	19 William Road, BH7 7BA
1980		Siggs, D.	18 Parkstone Avenue, Poole, BH14 9LR
1980		Siggs, Mrs. N.C.	" " "
1971		Simmons, W.F.	166 Shelbourne Road, BH8 8RA
1971		Simmons, Mrs. G.L.	" "
1976		Simmons, Miss I.	4 Hampshire House, 37 Cavendish Road
1979		Smith, S.F.	44 The Grove, Moordown
1981		Smith, Mrs. F.A.	17 Chilton Drive, Barton-on-Sea
1973		Smith, Miss V.H.	15 Belle Vue Gardens, Belle Vue Road
1976		Sorton, Mrs. A.L.E.,B.A.	5 Admirals Walk, Westcliff Road
1975		Souter, Miss E.E.	9 Rowan Close, Highcliffe
1971		Southworth, T.C.,O.B.E.,B.SC.	15 Chine Crescent Road, BH2 5LG
1971		Southworth, Mrs. N.K.G.,M.A.	" " "
1976		Sparkes, G., M.I.E.E.	68 Clingan Road
1976		Sparkes, Mrs. M.	" "
1979		Stanley, Mrs. V.N.	13 Bourne Court, Bourne Avenue
1976		Starkey, Miss V.E.	C36 San Remo Towers, Sea Road
1979		Stearn, N.S.J.	18 The Anchorage, 157 Mudeford

1969		Stephens, Mrs. G.B.	24 Cavendish Road, BH1 1RF
1876		Stocker, Miss M.,B.A.	21 Amberley Court, Bath Road
1967		Strain, W.S.,M.A.	65 Farm Lane North, Barton-on-Sea
1979		Street, Miss C.	18 Broughton Close
1979		Street, Miss W.	" "
1975		Sutherland, A.,F.L.A.	College Library, Wallisdown
1980		Sykes, J.R.	32 Durrington Road
1979		Taconis, Miss R.M.	78 The Grove, Christchurch
1955	*	Taylor, Mrs. B.	160 Belle Vue Road, BH6 3AH
1982		Taylor, C.J.	18 Dunkeld Road, BH3 7EN
1980		Taylor, F.	38 Hillbrow Road
1979		Taylor, Mrs. M.M.	" "
1967	+V	Teasdill, G.,F.M.A.,F.R.S.A., F.R.N.S.,F.Z.S.	99 Carbery Avenue, BH6 3LP
1967		Teasdill, Mrs. N.A.	" " "
1982		Thomas, Mrs. M.G.	14 Easter Court, 31 St. John's Road
1977		Thomas, Mrs. S.	106 Sopwith Crescent, Wimborne
1965	V	Thomas, W.C.	Flat D, Laverstock, Boscombe Cliff Road
1965	+V	Thomas, Mrs G.M.,M.A.,B.LITT.	" " " "
1979		Thomas, Mrs. W.P.	3B Stourwood Road
1978		Timms, Miss M.	11 The Conifers, The Avenue, Poole
1970		Tipper, Miss N.	6 St. Michael's Flats, Cambridge Road
1965		Todd, Miss E.C.	Flat A, Pendennis, 7 Derby Road, BH1 3PU
1976		Tompkins, R.J.	C41 San Remo Towers, Sea Road
1975	*	Towndrow, Mrs. I.	C4 St. Catherines Court, 35 Christchurch Road
1977		Tuck, Mrs. L.K.	18 Toft Mansions, Manor Road
1981		Underhill, Miss M.L.	10a Glen Road, BH5 1HR
1981		Underhill, Mrs. R.A.	2 Leonard Hackett Court, St. Winifred's Road
1976		Upson, A.	4 Ryan Close, Ferndown
1976		Upson, Mrs. O.	" "
1981	L	Vassie, G.J.,F.R.E.S.	40 Cranleigh Gardens, BH6 5LE
1981	L	Vassie, Mrs. B.A.	" " "
1982		Vitalis, Mrs D.L.	E44 San Remo Towers, Sea Road
1982		Walker, Mrs. D.,S.R.N.	4 Stour View Court, 118 Hurn Road, Christchurch
1982		Walker, Miss M.J.	74 Huntly Road
1974		Wall, T.R.	17 St. Mary's Road, Ferndown
1961		Wallace, Miss J.B.,B.SC.	10 St. Ives Park, Ringwood
1980		Warburg, Mrs. A.M.	11 Katterns Close, Christchurch
1981		Watkins, Mrs. B.	14 Ingleby, 6 Wimborne Road, BH2 6NG
1977		Watson, F.R.	79 Brackendale Road
1976		Watson, Comm. G.W.,C.ENG., M.I. MECH E.,F.I.R.A.S.	17 Wimborne Road
1976		Watson, Mrs. H.M.	" "
1981		Watts, C.D.	5 Luscombe Road, Poole
1981		Watts, Mrs. R.	" " "
1977		Webster, C.J.	4 Chewton Common Road, Highcliffe
1977		Webster, Mrs. B.J.	" " " "
1975		Webster, Miss S.C., B.ED.	" " " "
1979		Westbrook, Mrs. S.	15 Wheelers Lane, Bearwood
1970	L	Wheeler, H.P.	47 Belle Vue Road, BH6 3DD
1970	L	Wheeler, Mrs. L.	" " "
1982		Whieldon, P.,B.SC.	10 Branders Lane
1982		Whieldon, Mrs. M.	" "
1978		Whitsed, W.J., F.R.S.A.	41 Feversham Avenue, BH8 9NW
1982		Wiggs, Mrs. M.R.	3 Thessaly Court, 7 Crabton Close Road
1982		William, Mrs. D.M.	B15 San Remo Towers, Sea Road
1979		Williams, Mrs. M.	76 Huntly Road

1977		Williams, Mrs. M.R.	102 Belle Vue Road
1980		Willson, Miss E.D.	50 Charminster Avenue, NH9 1SB
1972	*	Wilson, F.W.,F.C.I.S.	9 Pascoe Close, Poole
1972		Wilson, Mrs. E.M.	" " "
1976	L	Winter, Mrs A.R.	10 Lakeside Road, Branksome Park
1979		Winter, Miss P.E.,M.A.	7 Broadway
1979		Winter, Miss R.H.D.	"
1981		Withrington, L.A.	53 Copeland Drive, Poole, BH14 8NR
1981		Withrington, Mrs. M.F.	" " "
1948		Wood, Miss E.B.,B.SC.	4 New Park Road, BH6 5AB
1971	L	Wood, Mrs. D.L.	6 Crofton Court, 37 Wellington Road
1980		Wood, Miss F.	16 Harcourt, Derby Road, BH1 3PZ
1981		Woods, Mrs. J.M.	6 Knole Gardens
1981		Woodward, Lt. Col. P.H., T.D., B.SC.,C.ENG.,F.I.E.E.	1 Hamilton Close, Mudeford
1981		Woodward, Mrs. M.	" "
1949	*+V	Wray, Dr. D.A.,M.A.,PH.D.,F.G.S.	14 Grove Road, Barton-on-Sea
1975	L	Wrenn, G.	99 The Avenue, Moordown
1980		Wrenn, Mrs. M.	" "
1977		Young, Mrs. M.E.,B.SC.	67 Orchard Avenue, Poole
1979		Yuill, Mrs. T.O.	15a Newstead Road

OBITUARIES

It is with deep regret that we have to announce that during the past year the following members have died (the figure in brackets is the year of joining the Society):-

Mrs. Eaton (1979)	Sqd.Ldr. J.L.C. Banks (1967)
Mrs. C.D.M. Goldie (1963)	Miss B. Brazier (1977)

SQD. LDR. J.L.C. BANKS

Sqd. Ldr. Banks was born in London and educated at King's School, Canterbury. Trained at Cranwell, he served in the R.A.F. for several years before transferring to civil aviation. After flying with Imperial Airways he moved to the Middle East to take over the running of the Iraq Petroleum Company's air services. He rejoined the R.A.F. for the duration of the second World War, and afterwards returned to B.O.A.C., where he was appointed Regional Director, first for West Africa, and later for the Far East.

He joined the Society in 1967, and soon became Chairman of Entomology. He was President in the year 1972-73. He was a Fellow of the Royal Entomological Society, and although his major interest was in insects, he was extremely knowledgeable on all aspects of Natural History. An excellent photographer and enthusiastic field naturalist, he gave many lectures to the Society, chiefly on butterflies, dragonflies and alpine flowers. He led innumerable field meetings, and was always ready to share his knowledge with others. His death on 13 March 1982 was a very great loss.

M.M.B.

URSULA M. OGLE.

Ursula M. Ogle, who died on 12/2/81, had been a distinguished member of the Bournemouth Camera Club since 1935 and hence, was well-known to many of the then members of the Natural Science Society which she joined in 1950.

In 1954, Mr. A.W. Legat persuaded her to take the position of Chairman of the Photographic Section, a position which she continued to hold, except for the year 1971-72 when she consented to become our President, until her death.

Miss Ogle was a very talented person and her love of Nature and music combined with a highly developed artistic sense to produce outstanding photographic pictures which she accompanied with appropriate music to provide most delightful afternoons which will long be remembered by our members.

We were all sad to see her ever increasing infirmity during her last months with us and the Society has suffered greatly by the loss of such a modest yet talented person.

A.K.H.

PRESIDENTIAL ADDRESS

CHARLES DARWIN - Naturalist and Traveller

BY MISS K.MILNER BENNETTS, F.Z.S.

Delivered before the Society on the 9th October, 1982

Charles Robert Darwin, British Naturalist and Traveller was born 1809 and died in 1882 thus making 1982 the centenary year of his death. He was the son of Robert Darwin, physician and grandson of Erasmus Darwin, botanist.

He was born at Shrewsbury on 12th February 1809 and was educated at Shrewsbury, Edinburgh and Christ's College, Cambridge.

In 1831 Darwin was appointed naturalist on the Beagle, a vessel fitted out for a voyage of scientific discovery in the South Seas. This voyage lasted from December 1831 to October 1836.

In 1839 Darwin published his journal of researches into the geology and the natural history of the various countries which he visited. This was followed by the official record of his zoological observations made on the voyage.

Darwin had the power of observing facts so numerous and acute in all forms of nature geological, botanical and zoological coupled with the possession of immense faculty of taking pains - what had been hypotheses in his early career as naturalist on the Beagle's Voyage Round the World were later general truths.

Darwin acknowledged that the voyage of the Beagle had been by far the most important event in his life and had determined his whole career. The great men who had influenced his work were the Reverend Professor Henslow, Alfred Russell Wallace, J.D. Hooker, Charles Lyell, Herbert Spencer and T.H. Huxley, who in one branch of science or another had encouraged and supported him.

The early course of his investigations led Darwin to suspect that many species of living creatures were not, as had been generally supposed, the result of special and individual creation, but were evolved or developed from slight differences in individuals, often resulting from changes in environment, which had been perpetuated and augmented in their descendants, through the general struggle for existence, bringing about the survival of the fittest and a natural selection in breeding.

In the general struggle for existence the organisms possessing advantageous variations will survive and reproduce their species. Other organisms competing against them in the struggle will become extinct. Darwin thus asserted that nature selects for survival those which are fittest for their own particular environment. This doctrine is briefly referred to as that of natural selection. Sharply opposed to his theory was that of Lamarck, who asserted that living organisms became changed or varied according to the surroundings in which they lived to meet the necessities of their existence and that the variations so acquired were transmitted to their offspring and to succeeding generations. Darwinism denied that variation was caused by environment alone.

Darwinism

Before Darwin's work appeared the majority of Naturalists held the view that species were realities or special creations, that is they were created in the form which they appeared and had not been derived from the species by any means.

The change over from 'specially created' to derivation from other species was made by Darwin's painstaking research in the space of twenty years. He made no claim that some doubts and difficulties did exist in the understanding how divergences of structure had their beginning.

Offspring always vary slightly from their parents, though generally very closely resemble them and exceed their parents numerically, therefore there will be a constant struggle for existence - starvation, cold, heat, rain, storm, flood and fire also take their toll. The struggle for survival is acute and on the whole the fittest will survive. If the fittest survive to breed, the peculiarity which produced the fitness will go on increasing so long as it is useful to the species. When, however, its maximum usefulness is overtaken by another modification which is more advantageous for survival, then the individual which varies in the new direction will survive. These modifications may go on until the plant or animal differs from the original parent and new species may be formed.

Darwin devoted the greater part of his life to collecting facts and making experiments.

The struggle for existence is continually going on among all organisms.

In plants the struggle is to occupy ground in competition with other plants needing the same food and to combat destruction by animals.

On the credit side of lowly creatures Darwin's experiment on the earthworm, followed a collection of the worms' castings. Darwin estimated that in many parts of England a weight of more than 10 tons (10.516 Kg) of dry earth annually passed through their bodies and was brought to the surface on each acre of land for the benefit of plant life.

Darwin showed a keen interest in insect-eating plants - one of which was the sundew, a tiny plant growing in peaty soil, mostly in damp mosses. He called the small stalk-like projections on the leaves of the sundew tentacles. The rounded heads of the tentacles bathed in a globular viscid fluid he named glands. No nitrogenic nourishment is obtained from this soil so in order to get it, insects landing on the leaves had to provide it. The gland that has caught the insect secretes liquid which ensnares the victim securely. Other tentacles begin to bend towards the victim from all quarters and more secretion is produced. The sticky moisture exuded clogs the breathing pores and life becomes extinct. The body is then digested by the secretion, the inedible parts are blown away as the tentacles unfold and they are then ready for the next victim.

Orchids

Orchids too, provided Darwin with an example of entomophilous flowers i.e. those aided by insects in the pollination/fertilisation of their flowers and that cross pollination occurs when the pollen of a given flower is not deposited upon the stigma of the same flower, but on that of another of the same species.

In the Spotted orchid Darwin observed that an insect (bee) stood on the broad part of the labellum (modified leaf), pushed down its proboscis into the spur, ate into the wall of the spur and at the same time rested its head against two sticky glands of the pollen masses. The meal finished, it flew away carrying the 2 pollen masses which will then go on to fertilise another orchid.

Continual existence of Low Forms of Life.

Since most species are continually undergoing modifications which give them superiority over other species or enables them to occupy fresh places in nature, it could be argued why any low forms of life continue to exist and have not been developed into higher forms. The answer could be that these low forms are necessary to occupy places which cannot be filled by higher forms, or they may have few, if any, competitors in situ. They have a part to play, filling places in nature which would otherwise be left vacant. They have, with very little modification, persisted throughout geological time.

Comparative Anatomy

Darwin made extensive use of comparative anatomy in advancing the theory of evolution. This branch of zoology deals with the structure of related animals. Modern comparative anatomy may be dated from the work of Pierre Belon, who showed in 1555 that the skeletons of man and birds were constructed of like parts arranged similarly. Subsequent studies led to the realisation that all animals are constructed according to a limited number of fundamental basic plans each plan being subject to a number of variations.

Not until the 19th century was it realised that different structures having some similarity might be developed through the alteration or loss of part in a line of descent from a common ancestral structure, a fact much emphasised by Darwin.

Structures in 2 different animals are held to be homologous if they can be traced to a common structure in an animal ancestral to both. For example the skeletons of the wing of a bat and the arm of a man are homologous because both are evolutionarily traceable to the fins of crossopterygian fishes in which the arrangement of the skeletal parts was first established. Fossil ancestors of the horse reveal how loss and reduction of toes have made a one-toed hoof out of a 4-clawed paw.

Evolution of Man

From the point of view of the biologist, the problem of the evolutionary origin of man is only one of the many problems of mammalian evolution, for in his physical structure and physiological functions, man falls within the biologists' definition of a mammal, and thus may be presumed to be the product of an evolutionary process similar to that which is known from the fossil record to have occurred in other groups of mammals.

At the time of the publication of Darwin's Origin of Species in 1859 there was considerable opposition to the conception of evolution as a whole, mainly because the idea of fixity and immutability of the different species of animals and plants was very prevalent at that time. Partly due to the purely scientific evidence adduced by taxonomists that species were clear cut and sharply defined categories which were not linked by intergradations. The cumulative evidence of the process of natural selection advanced by Darwin, reinforced by his exposition of the process of natural selection (a conception which had also occurred independently by Alfred Russell Wallace) eventually compelled acceptance of the main hypothesis of organ evolution. But general acceptance was certainly delayed by the circumstances that the hypothesis inevitably involved the consideration of man's relationship to lower animals and the implied conclusion that man was also the product of an evolutionary process and not a unique and special creation.

The word 'evolution' was seldom used by Darwin himself but the particular application given to it by Herbert Spencer rapidly caught on and Darwinism and evolution were often treated as synonomous terms.

T.H. Huxley was one of the expert biologists who was converted to Darwinism.

Since Darwin and in the 20th century the conclusion that species did give rise to other species has earned almost universal acceptance. But no general agreement had been reached as to the process by which the great variation in living things had taken place. Despite that reservation it could be said that the history of biology since the days of Darwin might be treated as a commentary on his work.

The publication of the Origin of Species by Darwin in 1859 provided the outstanding contribution of the 19th century. The essential concept for the evolution of man was that of natural selection, though many more decades were to pass before its implications were either appreciated or employed. Darwin not only showed that evolution took place in the different organisms but he also provided an explanation which was sound in its chief outline, that nature selects forms which are better adapted to a particular geographic zone and way of life.

Evolution is the doctrine that all organisms are related to each other through common descent and and that the differences that now exist between the many species of animals and plants have arisen through hereditary alteration of pre-existing forms or species implies the unity of all life that has ever been on the earth - all came from the life that first existed. Each organism is just one manifestation of that life and all organisms are related as demonstrated by Darwin in the origin of species. This was the greatest generalisation in the history of biology and led to a radical revolution in biological sciences. The comparative anatomists and paleontolgists had gathered facts which indicated it, but it took the great mind of Darwin to see that living things were hereditarily related.

In this struggle for existence, it seemed to Darwin that variations, even small ones, might play a decisive part in preserving some individuals while others perished. Any genotypic variation that is at all advantageous will have survival value and the individual possessing it will have a better chance to live and to pass on its advantageous variation to its offspring.

In this way there is an accumulation of variations which eventually leads to the establishment of new varieties and species.

Darwin's theory of evolution stressed psychological as well as structural continuities between animal and man. He wrote about the distinctive gestures and facial expressions which characterise the different emotions and suggested that at least some of these bahavioural patterns such as the human sheer were inherited from lower species as carnivores or primates.

Darwin made important contributions to animal psychology in such works as Expression of the Emotion in Man and Animals (1872).

Sexual Selection

Sexual selection has led to the development of second sexual characters - bright colours, fantastic displays by male, showing virility and strength and so attractive to the female. If the female is also strong and healthy then more and better offspring will be the outcome.

Colour and Environment Changes

In Arctic regions white is the predominant colour not only for a predator e.g. a polar bear to approach unseen but also as camouflage to escape predation. Again the light colour is beneficial as a means of checking radiation during the arctic winter. But this has not been entirely substantiated because some arctic animals e.g. musk oxen are brown and therefore conspicuous but also gregarious. This colouration enables the herd to keep in contact. Another creature contrary to the 'white' theory is the raven - a black powerful bird and fears few enemies - it is a carrion feeder so no need to approach alert prey with stealth. These examples provide the exception that proves the rule.

Colour adaptation combined with markings are noticeable. Rounded spots are common on forest living animals e.g. leopard. Stripes are worn by animals living in reedy or grassy areas e.g. tiger.

One other example is the sloth which feeds on leaves and hangs upside down from branches of trees. The long coarse grey/green hair resembles withered moss which serves to conceal the animal in the moss covered trees.

A comparative colour protection can be cited in plants, butterflies, beetles, birds and insects, without which survival cannot be assured, a case of survival of the fittest by natural selection.

Natural selection under changed conditions worldwide throughout all geological time. Land and water have continually changed positions, for example, subsidence of land and elevation of marshland to dry land - climatic changes with consequent change of vegetation leading to migration of animals to fresh areas, so disrupting the original balance of wildlife. Only those that became modified were successful. Variation in body structure or function were also necessary. Colour change for camouflage, an increase in speed, a power to climb trees and to feed on berries and leaves instead of grasses. A change too, of living in arid country to that of marshland needed some adaptation for an aquatic life.

Darwin noted that in the Catskill Mts. in U.S.A. there were two species of wolves each suited to different prey, a long legged swift runner able to catch deer and another shorter legged wolf which preyed on such stable animals as sheep.

The Descent of Man

The main conclusion that man is descendend from some less highly organised form by the close similarity between man and the lower animals is clearly seen in embrionic development,the rudiments which he retains and the abnormal reversions to which he is occasionaly liable. The close resemblance of the embrio of man to that of, for example, a dog plus the construction of skull, limbs and general anatomy, point conclusively according to Darwin, that man is the co-descendant with other mammals from a common progenitor.

All the higher mammals were probably derived from an ancient marsupial animal and this through a long line of diversified forms, from some amphibian-like creature and this again from some fish-like animal in the dim obscurity of the past. The early progenitor of all vertebrates must have been an aquatic animal provided with breathing organs, but with the brain and heart not fully developed. That animal seems to have been most like the larvae of the existing marine ascidians, a group belonging to the tunicates.

Voyage of the Beagle (1831 - 1836)

On 27th December 1831, the Beagle with Captain Robert Fitzroy and Charles Darwin as naturalist left Devonport. The object of the voyage was to complete the survey of Patagonia and Tierra del Fuego commenced by Captain John King in 1826 - 1830 and also to survey the shores of Chile, Peru and some of the islands in the Pacific. Instruments were carried to carry out chronometrical measurements. Whenever possible Darwin left the ship to study the flora, fauna and geology of various countries. His observations and records were always painstakingly and conscientiously carried out.

Darwin visited part of the Island of St. Jago, one in the group of Cape Verde Islands. He described its structure as an Island composed of high central mountains, rising from a plain, the periphery of which was a broken ring of cone-shaped hills. A second plain sloped from the cone-shaped hills down to the sea cliffs. The lowest strata of the sea cliffs were basaltic fossils characteristics of shallow seas. The detached hills were volcanic and streams of lava could be traced flowing over the basalt coast plain and over the sea cliffs.

Besides the geology of that island Darwin noted the habits of some marine animals including a sea slug approximately 5" long, of a dirty yellowish brown, veined with purple that fed on soft seaweeds which grew among the stones in muddy shallow water.

In Brazil on Bahia's coastline Darwin was interested in the habits of Diodon antennatus which was caught swimming near the shore. He described its appearance of flabby skin and had the power to distend itself into an almost spherical shape. A considerable quantity of water and air was absorbed through the mouth and perhaps by the bronchial orifices. It possessed several means of defence - ability to bite, eject forcibly water from its mouth, inflate its body until the papillae with which the skin was covered became erect and sharply pointed, making it difficult for a predator to swallow.

Small dark-coloured ants migrated in countless numbers and Darwin at Bahia observed spiders, cockroaches, other insects and some lizards rushing in great agitation across a bare patch of ground, the reason being that every stalk and leaf were blackened by small black ants. The swarm of ants having crossed the bare ground, divided into groups and surrounded the fleeing creatures and many were destroyed by the ants.

In a letter written to Dr. J.D. Hooker in 1858, while staying at Tunbridge Wells, Darwin recorded watching a slave-making ant. He had been sceptical of the interesting stories which he had read or heard - but he doubted no longer after he had seen a defeated marauding party and a migration from one nest to another of the slave - makers carrying their slaves in their mouths. In 1982 a Radio 4 Programme on Natural History recorded such activities 124 years later. Another example of Darwin's keen powers of observation on lowly life.

Argentina

At the mouth of the Rio Negra where a small colony was established Darwin rode to a large salina, the border of which was formed by mud containing numerous large crystals of gypsum embedded in it. On the surface were scattered crystals of sulphate of soda. The mud in many places was thrown up in casts by some kind of worm or annelidous animal.

Patagonia

In Patagonia there were numerous small rodents, in particular several species of mice with long narrow ears and thin fur. They swarmed amongst the thickets in the valleys where they were deprived of water for months except dew. They were preyed upon by a small fox found in large numbers.

Besides these there were guanaco in herds of fifty to one hundred also puma, condors, bizcacha and other carrion feeders. The bizcacha, a creature resembling a rabbit but with bigger gnawing teeth and a long tail.

Animals and Birds of Chile

The largest mammal is the jaguar, which preys mostly on capybara the world's largest rodent.

Two species of humming birds are common. Trochilus forficatus found over a distance of 2500 miles on west coast from the hot dry country of Lima to the forests of Tierra del Fuego.

South America

Compared with the Old World, South America does not possess many large dramatic species of mammals. This was certainly not always the case. In 1835 Darwin sailed in the Beagle along the coast of Argentina. During some of his exploits on lands, he excavated the fossil bones of nine great quadrupeds from a low cliff at Punta Alta. He formed the important conclusions:

1) that those quaint animals had lived until comparatively recent times, for they were found in association with shells of living creatures still found on the tide-line,

2) that in order for so many species to be found, that were unknown elsewhere, South America must have been an island. Punta Alta, where Darwin found remains of gigantic land animals embedded in the plains and beach. Megatherium, Megalonyx, Scelidotherium, Mylodon darwinii, extinct kind of horse, a pachyderm type of tooth, and Toxodon - Professor Owen solved the problem of their life habits by studying their teeth, which were of simple structure and indicated that they were vegetarians living on leaves and small twigs. Their huge forms and great strong curved claws precluded easy locomotion - and would make climbing trees to reach the leaves impossible, but their clawed limbs could be used to pull down a tree or branch and so get at the foliage. The Mylodon had a long extensile tongue similar to that of a giraffe.

Among the batrachian reptiles Darwin found only one little toad (Phryniscus nigrans) which was black, with the soles of its feet and part of its stomach bright vermilion.

The Andes

Darwin mentioned that mountain chains were generally non-volcanic. He suggested that volcanic eruptions reach the surface more readily through fissures formed during the first stages of the conversion of the ocean bed into dry land.

That there are volcanoes on tops of mountains in the Andes could be explained by the fact that the mountains were once below the sea and each successive eruption added height to the mountain.

As examples he recorded that all small islands lying far from any continent in the oceans of the Pacific, Indian and Atlantic, with the exception of the Seychelles were either composed of coral or erupted matter, thus correlating his statement that the majority of active volcanoes are either on islands or close to sea coasts. The Galapagos Archipelago furnished a good example.

Coral Reef

The first scientific theory to explain coral reefs was developed by Darwin. He stated that reefs began to grow around islands as fringing reefs, and that as the island gradually sank beneath the sea, the coral grew upward and outward as rapidly as the sea rose, thus the fringing reef became a barrier reef. As the island sank completely beneath the sea the barrier reef became an atoll. Numerous other theories have been developed, but Darwin's subsidence theory was more explanatory of coral development.

Galapagos

In 1835 Darwin, then aged twenty six, visited the Galapagos Archipelago, a group of islands about 600 miles west of the coast of South America. His visit of 5 weeks could be considered historic for it was its flora and fauna which cemented his theories of variability and natural selection of the fittest for survival.

Darwin realised that the flora and fauna of the islands must have originated from the mainland of South America and had become modified by various environmental conditions. He noted that the various islands, not more than fifty miles apart and having the same geological formation and similar climate, contained different varieties of the same species of animals e.g. tortoise and finch.

Many of the craters appeared to have been submerged during the time that they were active because of the scarcity of ash. Several of the craters were filled with solidified basalt. In others the lakes were of brine, the consequent concentration of sea water as noted by Darwin.

The archipelago provided the evidence for Darwin's 'Origin of Species' in which he established his theory that species are not unchangeable specially created entities, but are subject to evolutionary change by natural selection.

All species of Darwin's finches (13 species) seemingly originated from the same source, but each species became isolated in different habitats and was adapted to different food and each evolved to different purposes.

Darwin remarked, on studying these finches that "one might really fancy that from an original paucity of birds in this archipelago, one species had been taken and modified for different ends". 13 species of the same ancestry are restricted to the Galapagos Islands and Darwin noted that the main difference in appearance was in the size and shape of their beaks and only a slight difference in their colour, blackish/brown to light brown and body size.

Falkland Islands

Darwin visited the Falkland Islands in March 1833 and again in 1834. The Beagle anchored in Berkeley Sound in East Falkland. He described the island as undulating desolate moorland, with a peaty soil covered sparsely with a few small shrubs. There were occasional ridges and peaks of grey quartz rocks and one main range of hills of 2000 ft. Wildlife was minimal. There were large herds of cattle and wild ponies, both introduced by the French in 1764.

Gauchos, with whom Darwin travelled, mentioned the introduction of large numbers o rabbits. There prolific breeding potential was checked by the native fox/wolf (the warrah) which was not found in any other part of South America.

The lower country consisted of clay/slate and sandstone which contained fossils, closely related to those found in the Siberian formations of Europe. The hills were formed of white granular quartz rock.

Darwin noted that in many parts of the Island the bottoms of the valleys were covered in an extraordinary manner by numerous great loose angular fragments of quartz rock, forming 'streams of stone'. No conclusion of their origin was formed by Darwin, but a supposition that streams of white lava had flowed from many parts of the mountains into the lower country, had become solidified and later rent by some enormous convulsion into myriads of fragments.

Darwin had seen similar fragmentation in the Cordillera of the Andes and he became convinced that the cause was from a convulsion.

Zoology

Wildlife was comparatively scarce. Predatory birds were hawks. Two kinds of geese, the upland which do not migrate. The rock goose (kelp goose) was common and found also on west coast of America as far north as Chile. Also noted was the logger-head duck or steamer duck.

Among predatory birds were what Darwin described as hawks would probably be turkey vulture, caracara and kestrel.

Tierra del Fuego

When Darwin and his party landed at the Bay of Good Success, they were greeted by the Fuegians - with a little apprehension on both sides. Darwin noted their ability to mimic even the smallest detail of action or voice inflexion and also their memory for words.

Darwin described Tierra del Fuego as mountainous, and partly submerged by the sea, causing deep inlets and bays occupying the area where valleys should have been. With the exception of the exposed western coast, the mountain sides were covered by one hugh forest, some tree belts reaching 1500 ft. followed by a belt of peat, with minute alpine plants, above which was a line of perpetual snow.

Following a water course to an elevated position, Darwin recorded a number of dead trees. The only species was Fagus betuloides antartic beech which retains its leaves throughout the year.

Back on board the Beagle, the vessel encountered heavy seas around Cape Horn and a capsize was only narrowly averted.

Of particular interest to Darwin was a globular bright yellow fungus found on beech trees. That was an item of food for the Fuegians. It was the only country in the world where a cryptogamic plant afforded a staple diet.

The zoology was very limited - mammals were whales, seals, one bat, 3 species of mice, 2 species of foxes, sea otters, guanaco and one deer. No reptiles.

Birds

Scarlet crested black woodpecker,tree creeper, finches, thrush, starlings, hawks and owls - only a few beetles, butterflies and bees appeared and some crustaceans were living in kelp beds.

Chile

Puma - The puma, or as Darwin called it, the South American lion - was fairly common and had a wide geographical range - from equatorial forests, the deserts of Patagonia as far south as Tierra del Fuego and the cordillera of Central Chile up to a height of 10,000 ft. In the Plata its chief prey was deer, rheas, bizcacha and quadrupeds.

Birds

Two species of birds of the genus Pheroptochos were reasonably common on arid scrubland. One was called by the Chilenos 'el Turco' about the size of a fieldfare and slightly related to it.

The second species was Pheroptochos tapacola, the specific name meaning 'cover your posterior' a name appropriate enough because its erect tail was inclined forwards towards the head revealing a large area of its rear end.

Central Chile

The Beagle anchored in the bay of Valparaiso, the chief port of Chile from which Darwin saw glimpses of the Andes, of particular interest was the volcano of Aconcagua 23,000ft.

Darwin's chief object was to study the geology of the lower Andes, especially the great beds of shells, some lying loose, others embedded in a reddish/black vegetable mould which under the microscope was found to be marine mud full of minute particles of organic bodies.

New Zealand

The Beagle's first port of call was in the Bay of Islands.

Darwin noticed particularly the hill tops which had at one time been fortified with terraces and protective trenches. These were the Maori pas. Piles of shells were in evidence as signs of past habitation.

At Waimate, time was spent at a farmhouse which had farm land growing barley, wheat, and potatoes. A vegetable garden produced asparagus, kidney beans, apples, pears, figs, peaches, apricots, grapes, olives, gooseberries and all growing in profusion. In the farmyard were stables, a thrashing machine, a blacksmith's forge, pigs and poultry.

A rill had been dammed to make a pool and a watermill was usable. All this work had been carried out in the space of 5 years - a house had been built where only fern had grown previously. Darwin remarked that he felt nostalgic because of the likeness to English life. Much of the credit of achievement was undoubtedly due to the influence of the missionaries according to Darwin.

Darwin appeared unimpressed by much that he saw, considering the size of the Island, area 700 miles long and 90 miles wide and of varying height from ground level to 14,000 ft.

Australia

Darwin's observations of the entrance to Sydney harbour, Port Jackson, reminded him of the coast of Patagonia - cliff formed shores of horizontal stratified sandstone. The Beagle anchored in Sydney Cove, where many large ships were already moored alongside wharf warehouses. Darwin calculated that within a short space of time, Australia had developed more than during centuries in South America.

Horses were hired. He hoped to get a more comprehensive and comparative idea of the countryside. On route he noted gangs of prisoners working on road construction. They worked in chains and were guarded by sentries armed with firearms. At that period Australia was a penal settlement.

He was struck by the uniformity of the vegetation and trees and in particular that nearly all the trees belonged to one family Eucalyptus, thier leaves hanging vertically and not horizontally as in European trees. They were pale green and pointed. This arrangement Darwin was informed allowed sunlight to penetrate to the ground level of vegetation. He also noted that the bark of some trees was shed rather than the leaves.

During his journey he met up with a group of Aborigines.

The numbers of Aborigines were declining and Darwin sought the reason. A missionary, Rev. J. Williams, spoke of the possibility that the introduction of Europeans and the diseases which they had brought with them was responsible.

Darwin learned from a Mr. Archer, his host at the time, of the decline of wild creatures. The emu had already disappeared and kangaroo were scarce - mostly because settlers, as farmers, required more land and the Aborigines were willing to part with their territorial land for a consideration.

By good fortune he saw several duck-bill platypuses in the water. Darwin was ever convinced that all mammals had descended from a single progenitor but he would not speculate what its nature might be. Probably the Ornithorhynchus (duck-bill platypus) or Tachyglossus aculiatus,(echidna), as these animals combine reptilian, avian and mammalian features and may be the link between reptile and mammal.

Summary

The foundations of his life's work were laid in the active work of observing and collecting during the years 1832 - 1835, with the problem of species active in his mind.

In the slow sea passage of the last year before reaching England in October 1836, the teeming questions on biological change were alive in his mind. The moulding and cementing idea of natural selection which was to follow in 1838, after his return to England, changed all preceding evolutionary speculations into a scientific process.

In the concluding passage of the introduction to the 'Origin of Species' he quoted 'although much remains obscure and will long remain obscure, I can entertain no doubt, after the most deliberate and dispassionate judgement of which I am capable, that the view which most naturalists, until recently entertained and which I formerly entertained, namely, that each species has been independently created, is erroneous. I am fully convinced that species are not immutable, but that those belonging to what are called the same genera are lineal descendants of some other and generally extint species, in the same manner as the acknowledged varieties of any species are the descendants of that species. Futhermore, I am convinced that Natural Selection has been the most important, but not the exclusive means of modification.'

It should be especially noted that all which is here claimed is now universally admitted, while the criticisms of Darwin's work refer almost exclusively to those numerous questions, which, as he himself says 'will long remain obscure'.

With limited time and word space, only a small amount of subject matter is permitted, but I hope that what I have presented will elucidate the remarkable personality of Charles Darwin and his contribution to biological, zoological and geological sciences. This contribution was expressed by him early in life as a naturalist that he would give of his best in the cause of science and he stuck doggedly to his proven theory of Natural Selection and Survival of the Fittest.

THE 79th REPORT OF COUNCIL FOR THE YEAR ENDING 30th SEPTEMBER 1982.

Congratulations to all Chairmen of Sections for the numerous, fascinating and instructive lectures and field meetings which they have provided. Unfortunately several sections have been without a chairman but endeavours have been made to fill some gaps. There must be some member from the membership of 490 who could help. There is no need to be a professional, all support would be gladly given to a 'new boy' willing to undertake a section. To be involved enhances the personal membership. Please give it a try - particularly needed are Chairmen for Photography and Gardening and above all to the Hon. Office of Treasurer. Mr. T.R. Wall intimated his wish to retire in March 1981. His devotion to duty is highly commendable as is his expertise. Please support his request for retirement.

Special thanks must be recorded to Mr. J.C. Mitton, Chief Projectionist and to Mr. T. Crawshaw for devoted service. Also to Mr. W. Hardy as cine projectionist for the films carefully selected by the cine programme Chairman Mr. F.B. Martin.

Open Day on Saturday, 21st August once again proved a success. The project was on the Dorset Coast. Over 200 visitors were welcomed and expressed interest in the work of the Society. Mr. G. Nash, Chairman of Astronomy, supplied his own telescope, which provided a chance to view the heavens.

A special section on microscopy was set up to show micro-slides on insects invisible to the naked eye. Exhibits of pond life were also shown. Dr. T.M. Bell, Mr. S.C.S. Brown and our energetic new member, Mr. G. Vassie were in charge of this section.

All other sections provided interest to visitors as shown by their stimulating questions.

A hard but happy day's work, greatly relaxed by light refreshments provided by the 'tea ladies' to whom thanks.

The Dorset Naturalist Trust, Bournemouth Camera Club and the Dorset Environmental Records Centre were invited and did participate.

Gratitude to all who have given exhibits and books, including the annual subscription to 'Nature' from Miss Penrose, who unfortunately is not enjoying the best of health. Messrs. Wilson and Teasdill undertake the binding of that weekly journal for which many thanks. Two anonymous contributions for garden improvement are gratefully acknowledged. Members are asked to support this by offering to help with maintaining this, some are already doing so. Another member who wishes to remain anonymous has paid for the new carpet in the Reference Library. A new carpet surround to match that of the stair carpet, has been laid around the diorama, money used from general funds, but provided in some measure from Garden and New Year parties and sale of produce provided by the President and her husband George. Also sales of marmalade and jams made by Mrs. D. Dain. Thanks to all.

Membership stands at 490. Naturally with the passage of time members of long standing have passed on. Their names are reported elsewhere in the Proceedings.

Social.

The New Year and Garden Parties are a pleasing feature and The Society is indebted to Miss M.W.S. Davis for the New Year Party and to Miss Ruth Winter for the Garden Party, both wholeheartedly supported by their committee, whose excellent results are financially and socially rewarding.

Congratulations to Miss Margaret Brooks upon the publication of her book 'A Complete Guide to British Butterflies' illustrated by her own remarkable photographs.

Mrs Molly Parkinson, our outgoing President, has fulfilled her year of office with dignity, dedication and tremendous zest. She is succeesed by Miss K. Milner Bennetts.

Administration.

All officers are honorary but because of their devotion to duty the general and financial business run smoothly, but not without, at times, financial concern and a deal of sustained effort on every officer's part. To all officers and Committee members sincere thanks are expressed. Their names appear elsewhere in the Proceeding Also remembering Miss Allen and Miss Andrew for typing "News Letters" and the Editor of The Bournemouth Echo

Mrs Chomé - garden chairman - held this chair for 30 years special thanks to her
Photography - Miss U. Ogle deceased.
Entomology - Sqd. Ldr. Banks deceased.

Mr. W.O. Robins - ill health.
Miss M.W.S. Davis has succeeded him as Geography Chairman
and Mr. G. Vassie as Press Officer.
Geology - Mrs. B. Taylor retired - Mr. W.N.J. Stearn has succeeded her.

Miss M.M. Brooks has taken on the Entomology Section.
The Council is pleased to welcome the new Chairmen and good wishes are extended.

Finance

Please refer to the Hon. Treasurer's report.

Council asks that wherever possible subscriptions be paid by Deed of Covenant as explained fully in past "News Letters".

Any queries can be discussed with the Hon. Treasurer.

The Society is fortunate in having its own property and beautiful botanical garden, which must be used to the best advantage,

With all members pulling together the Society can look forward to another successful year.

Mrs. Garlinge, the caretaker, continues to give good and willing service.

Archaeology and History

The Session was a particularly active one for the Section. We had an expedition to London to see the Museum of London and St. Paul's Cathedral and this concluded by attending Evensong in the Cathedral. We also attended Evensong at Winchester Cathedral on a different expedition. Full details of our programme for the year will be found elsewhere in the Proceedings.

On September 1st we experimented by holding a lecture open to the public in the evening and this was highly successful. Mr. Roger J. Mercer spoke on "Hambledon Hill. A Neolithic Landscape" and the Rev. D.E.C. Jardine, who had himself lectured earlier in the year for us on "Hod and Hambledon Hills", occupied the Chair.

We were extremely honoured to have a lecture to the section by the President, Mrs. M.K. Parkinson, who spoke about "Denmark Ancient and Modern". Mrs. Parkinson also assisted us by taking the Chair, when Professor Barry Cunliffe lectured to the Society on July 12th on "Hengistbury Head Excavations".

We are most grateful to all our lecturers and only regret that pressure of space precludes our reporting each of the fascinating lectures that we have heard in detail.

Graham Teasdill, Chairman

Astronomy

On October 3rd 1981, Colin Pither, the well known amateur astronomer, gave a talk entitled "Support your binoculars". He discussed the great wealth of interesting and useful astronomical observations to be made with a pair of ordinary binoculars.

On November 14th 1981, Dr. Mike Hapgood from the Physics Department of Southampton Unversity lectured on "Aurorae, Air Glow and Meteors" and talked about the work done on these. The first two mentioned were phenomena being associated with ionisation of the Earth's upper atmosphere. Aurorae activity is closely associated with solar activity. Dr. Hapgood's studies take him all over Europe, in particular to mountain observatories in Switzerland and high latitudes in Scandinavia.

On January 16th 1982, Dr. Graham Pearce, from the Atomic Energy Establishment, Winfrith, talked about "The Enigma of SS433". This astonishing astronomical object. was unknown to most of the audience, it had only sprung to prominence in the astronomical world in the late seventies. A compact relativistic object several thousand light years distant produces high energy jets. Its nature and energy source are as yet unknown but could be the key to a whole new understanding of physics and astronomy.

On February 13th 1982, Adrian Owen, the well known local amateur astronomer and "eclipse chaser" gave a well illustrated talk about his latest eclipse trip - that of the total solar eclipse of July 31st 1981, which he observed from the Soviet Union.

On March 27th 1982, Miss Julia Wilken, B.Sc., gave a lucid lecture on the science of Infra-Red Astronomy and a comprehensive survey of the role and results of the young branch of infra-red astronomy, she showed how it can complement and extend the knowledge gained from more traditional branches of astronomical research.

Graeme Nash, Chairman

Botany

A rewarding year as the weather was kind, inducing botanically a generous response and the mild damp ending to Summer producing a great abundance of fungi. In my first year as chairman of the section I was surprised and grateful for the practical help and friendly support of so many members. In the 'Field' I must give special mention to Mr. R.G. Lees and Miss M. Blower without whom I would have been lost in more ways than one.

Dr. Norman, in enabling us to see for ourselves so many orchids on the Fontmell Down Reserve, afforded us a really delightful experience as did also Lady Anne Brewis at Selborne, where she showed us so many varieties of orchids. Unfortunately the heavy rain in the morning when we were setting out for Selborne caused shrinkage in our party, but I was assured that all who braved the weather enjoyed the outing. My grateful thanks are also due to Mr. G. Mouat, Mrs. B. Norton, Mr. J.G. Parkinson and Mrs. M. Saunders who led us on some of their special territories. The extent of our expeditions can be seen from the list towards the end of the Proceedings.

The talks and lectures were all informative and entertaining and graced by beautiful slides. In this connection thanks are due to Mrs. Dain who arranged the 1981 lectures, and Mr. F.R. Watson who was responsible for Mr. Roy Lancaster's visit

Just as we were experiencing the onslaught of winter, Dr. Norman took us away to the Mediterranean, and in December Mr. and Mrs. Parish gave us the benefit of the discoveries and superb photography in Ireland. In depressing February, Mr. Lancaster took us on an exotic journey to the "Marble Mountain", and in January with Miss Horsfall we enjoyed again all the lovely Dorset flowers that we seek in Spring and Summer. Mr. Withrington whisked us off again to the Mediterranean to sample his splendid photography, and, thanks to Mrs Chome, Mrs. Farrell came at very short notice to show and tell us more about the National Trust Gardens. Just at the time when our roadsides were showing the "lace" of *Anthriscus sylvestris*, Mrs. Hunt by selecting slides from Miss Balfour-Browne's collection, took us through all the *Umbelliferae* that we were likely to meet during the season, greatly helping with identification. With Dr. Bell we savoured a memorable holiday in the Pyrenees. Mr. Lockwood not only gave us practical advice and information, but also distributed specimen blooms for our close examination, and our visit to Mr. and Mrs. Heales's garden enabled members to experience the joy of cultivation.

As space is restricted I have deliberately refrained from naming species but for those interested there are, in the Botany room, comprehensive lists giving both the English and the scientific names, for all the plants found on our expeditions.

Stella Thomas, Chairman

General

Mrs. K. Lawrence spoke on the life of Cherry Kearton, who was born at Thwaite, a remote village in North Yorkshire dales on 8th July 1871. When he was 15 his father died and Cherry joined his brother Richard in London. His great love of the countryside, birds in particular, never left him and he and Richard spent any free time wandering around the fields. He rigged up a camera and his first effort of bird photography was highly successful. So encouraged by this he and Richard collaborated on producing a book entitled *British Birds' Nests*. Woodcuts and sketches were the prevalent means of illustration. In 1895, at the age of 24, he became the world's first free lance photographer of wild life. He progressed to photography from the air in a balloon. These were the first cinematograph pictures. His aspirations turned towards photographing more exotic creatures in Africa. Between 1910 - 1914 he became a pioneer in the filming of big game. His films were the first to introduce African wildlife to the British public.

Miss Sally Webster gave a second lecture on Australia and here is an excerpt of part of it:

Heron Island is on the Barrier Reef off east coast of Queensland, is bisected by the Tropic of Capricorn, and is ½ mile wide by ¾ mile long. It is a coral cay which began life as a reef, partially exposed at low tide. Over the years sand and coral debris have accumulated until the reef emerged permanently. It is a National Park with a scientific research station. Divers come from all parts of the world to study underwater and other wildlife. The commonest birds are reef egrets, landed rails, white capped and black naped terns, silver gulls, and grey breasted silver eyes. On the reef were clams, various corals, blue and orange starfish, turtles and a variety of coloured fish.

On 6th March in her talk on "Sir Richard Whittington and his Cat", Miss P. Winter described two personalities, the serious Lord Mayor of London with his achievements and benefactions, especially the Whittington almshouses, and the lively pantomime hero and his cat who did not appear until 200 years later. The connection between the two remains something of a mystery.

Mr. H. Wheeler gave a unique talk on battleships mostly before the Dreadnought starting with primitive craft stable enough to bear the weight of a man and later men and guns. Nelson's Victory keel was laid down in 1759, launched in 1760 and commissioned in 1778. Later came ships combining sail and steam but sails were phased out by the Royal Navy in 1879. The first Dreadnought was completed in 1905/6. In 1912 the Queen Elizabeth class was laid down and was fuelled by oil instead of coal. Mr. Wheeler went on to describe the arrival of the torpedo capable of travelling and striking below water and aircraft carriers. The Ark Royal became the forerunner of all Britain's aircraft and anti-submarine carriers. The nuclear powered submarine Splendid kept the Argentinian Navy confined to harbour during the Falkland Islands conflict in 1982.

The difference between cacti and succulents was explained by Rev. Stanley Dedman. Cacti are natives of the Americas, Peru, Chile, Mexico and California. Cacti have aeroles from which spines and flowers grow. Spines correspond to leaves and can be detached without harming the plants. Succulents may be stems or leaves from which spines develop. If they are removed the plant is damaged.

On 18th December Mrs. G.M. Thomas gave a talk on Oxford and its environs illustrated by slides of members of the 5-Day Field Meeting.

On 14th August Miss D. Gowland, Secretary of the Bournemouth Camera Club, who joined the Field Meeting, gave her impressions of Oxford, illustrated by slides.

Once again in 'Winter Wonderland' Miss Mary Exton delighted her audience with snow and frost scenes of revealing beauty as seen from the eye of an artist.

Mrs. M. Arnold's talk, "Over the Hills and not so far away" graphically illustrated by her own slides, depicted some of Dorset's most attractive and tranquil scenes, especially those of by-ways little known by the general public.

K.M. Bennetts, Chairman.

Geography

Owing to the illness of Mr. W.O. Robins I took over the Chairmanship of this section in November and I should like to thank him for his share in the programme of lectures and to wish him a return to good health.

The year commenced in October with an illustrated lecture "Across Central Anatolia" by Miss M.W.S. Davis. It showed the different kinds of countryside between Istanbul and Ankara ranging from paddy fields of rice to mountain slopes with Alpine flora.

In November Mr. F.B. Martin very kindly stepped into the breach left by Mr. Robins and gave a most interesting lecture on Austria in which he depicted the scenery and history of the Tyrol and some of the wild life found there.

The Honorary Secretary of the Society, Mr. F.R. Watson used some of the B.N.S.S. slides in his December talk on "Old Bournemouth". His choice of pictures showed how well-wooded the town had been before the developers moved in and his commentary gave a brief history of our town.

Mrs. J. Gray delighted us in January with her excellent slides of "Trails in the Canadian Rockies". Massive snow covered peaks appeared out of the mist followed by close-ups of wild flowers found in the region.

In February Mr. Chaney took us on a "Pot Luck holiday" around the West Country. His slides are always interesting and this time he found an enigma in the Churchyard at Moretonhampstead. Perhaps he will provide the answer one day ? Later in the month a past president- Mr. F. Oldham, gave an illustrated lecture on "Some interesting facts about Taunton". This talk was well researched and accompanied by some fine slides of interiors taken by his son.

The following two talks in March and April were given by members - Mr. F.B. Martin on "Some aspects of Germany" in which he dealt with the scenery and life in the Rhine Valley, mentioning Rudesheim where the wine festival is held each year, and Mr. H.L. Edwards gave a fine audio-visual presentation entitled "The Splendours of Florence and Venice" showing the great renaissance architecture of those two cities.

In May we welcomed back Col. A. Hemsley who took us on a journey across "Australia" from east to west.

Later in May Mrs. J. George showed some excellent slides entitled "A Journey through Greece". Her talk was the result of several visits to the country and included scenes of village life.

By July we were on the "Road to Morocco" with Mr. K. Barnes. Although he confided that he had few slides, he easily held our interest with a talk on the history, customs and scenery and anecdotes collected over seven visits to the country.

In the same month a member who addressed the Society for the first time was Mr. K. Eames with a lecture on "Northern India and Nepal". First setting the scene with some historical and geographical facts, he then showed some fine shots of a flight over the Himalayas in search of the elusive Mt. Everest and life in the Nepalese villages.

The Society was honoured on July 31st. when the Deputy Mayor, Cllr. G. Anstee, came to give a talk on the "Mayoral visit to Hanchow". In his talk Cllr. Anstee explained that he had been invited by the Mayor of the Chinese town with a view to opening up a tourist industry in the area. His remarks on strange Chinese habits caused much amusement,

The final two lectures in August and September provided a contrast in climates. Miss J. White in "Northern Landscapes" showed the bleak yet fascinating terrain of Iceland and Lapland while Mr. B.J. Phillips in "Somalia" illustrated the hot, dry countryside of a parched desert region. He is a member of the National Water Council and has made several visits to Somalia to train the inhabitants in the use of water equipment which was being installed by a German firm. He explained that he took his pictures surreptitiously as cameras are not welcome.

Field Outings

Due to early rain only a small group turned out for the October walk led by Mrs. W.O. Robins along the riverside past the old Blackwater Ferry. However, they were rewarded with a sunny morning later.

At the end of March on a day on which the early mist dispersed into sunshine Mrs. M. Saunders took a large party of members from Iford Bridge along the riverside to Town Common. This is the piece of land which the Dorset Naturalists Trust are in the process of purchasing as a nature reserve.

The last walk of the season was in the Wareham area in June when Mrs. M. Saunders and Mrs. M.S. Lund led a group on a circular walk around Wareham taking in the River Piddle district.

There was one outing on August 3rd when the Chairman took a full coach to visit the "Weald and Downland Open Air Museum" and "West Dean College and Gardens". It was a glorious warm day and we all enjoyed the summer landscape.

I should like to thank all those members who have contributed to the programme and particularly Mrs. M. Saunders who has taken over the leadership of walks when I have been away.

M.W.S. Davis, Chairman.

Geology

This section has been without a chairman for eighteen months. However it is obvious that Mrs. B. Taylor, helped by Mrs. M. Saunders, has been working very hard to catalogue the collection specimens. This collection is of outstanding merit. Without the help of these two ladies, the Annual Open Display by the Geological Section would have been less effective and attractive.

Mr. Mouat has offered to lead some parties to areas in which he has an interest

It is hoped that in the New Year some coach trips may be arranged.

Our thanks to Mr. V.K. Channon for his lecture "The Dorset Coast and Hinterland which was warmly appreciated by the members who attended the lecture.

With the sort of help and guidance I have already received, I am sure the task of chairman should be enjoyable.

Nevil Stearn, Chairman.

Physics and Chemistry

Our first lecture was by Mr. Brian Pike, of Flight Refuelling Ltd. at Blandford. This firm became interested in filtration because of the necessity of supplying absolutely clean fluids to aircraft. The techniques became extended to other applications in industry - such as coal cutting machines and power stations. Other devices to control the level in tanks and to prevent overfilling necessarily followed. An excellent demonstration model and specimens of fluid control equipment formed points of interest during the lecture.

Dr. G.H.H. Ames, a member of our Society, in his lecture "Plants and Animals are closer than we Think". traced the similarities in the biochemical reactions within the cells of plants and animals, particularly the relationship between chlorophyll and haemoglobin, the latter having an atom of iron in place of the magnesium in chlorophyll.

"Reactor Safety Systems" was the subject chosen by Mr. D.J. Tripp for the February lecture. Mr. Tripp was deputising for Mr. A.E. Cullen. In ensuring the safety of atomic reactors, certain measurements of temperature, flow of coolant gas, radiation flux need strict control. To guard against any possibility of failure, the control devices are triplicated and arranged so that if only one gives an alarm no action is taken, although the operator is made aware of the alarm. Should two of the three give an alarm, the reactor is automatically shut down. In this way false stoppages are avoided whilst ensuring safe working.

In last year's session, reference was made in considering sources of energy, to the use of the Earth's internal heat. Mr. J. Turtle of the C.E.G.B. gave a description of the work done at Marchwood in sinking an actual borehole and tapping the hot water as a source of energy. We were given an account of the geological considerations which led to the choice of site, and a description of the actual boring operation. A geothermal borehole, it is interesting to note, is now in actual use for space heating in Southampton.

We were most privileged to have from a former President of the Institution of Mechanical Engineers, Mr. Ewen McEwen, an account of the development of Engineering over the last 150 years, from the Iron Duke to the Microchip.

In April Mr. L.E. Colyer rounded off our session with a lecture on the History of Paints and Pigments, from the Dordogne cave paintings to the modern day, and discussing the minerals and chemicals used in art and technology.

My thanks are due to all those Members who have supported the lectures by their presence; by giving lectures; and by their suggestions.

T.A. Crawshaw, Chairman

Zoology---Entomology

Conditions this year brought butterflies in abundance - Brimstones (*G. rhamni*) in the spring, followed by Red Admiral (*V. atalanta*), Painted Lady (*V. cardui*), Peacock (*I. io*)and the Silver Washed Fritillary (*A. paphia*). Ballard Down provided large numbers of Marbled White (*M. galathea*), also Chalkhill Blue (*L. coridon*) and the Grayling (*H. semele*); in addition we saw our largest cricket (*T. viridissima*).

The lectures by Miss Brooks were well received and due to the sad loss of S/Ldr. Banks, Mr. S.C.S. Brown gave three lectures, for which the writer is indebted for the introduction and help in the ongoing study of *Mymaridae*. Mr. R.G. Lees led our field meetings and for the benefit of those that were new to the section, he demonstrated the correct procedure for catching, handling, observing and releasing Odonata/Lepidoptera.

Odonata started the year well and prolonged sunshine produced a good variety, including *Zygoptera* *C. puella*, *I. pumilio* *V. aurantiaca*, *A. virgo*, *A. splendens*, *Anisoptera* *A. cyanea*, *S. scoticum* and *C. aenea*. *Heterocera,* the *Silver Y* (*P. gamma*)have been numerous and there were vast numbers of Hover Flies. The writer observed our smallest cricket (*N. sylvestris*) which survives only in the south of England; also seen were the illusive Ground Hopper (*T. undulata*).

Finally my thanks to Mr. R.G. Lees for much of the above information.

Geoffrey Vassie.

Zoology-Mammalia and Natural History

Lectures

Hot-Air Balloon Safari in Kenya gave the Chairman the opportunity to watch and photograph part of the migration of the wildebeest with numbers of zebras in tow as they crossed from the Tanzanian border into Kenya. Besides these animals antelopes and elephants appeared to erupt out of stands of trees.

Mr. W.O. Copland, an official of The D.N.T. emphasised in his lecture, the need to manage Dorset's hedgerows and verges in order to protect wildlife. Heathland, which is under threat from farming and oil extraction, is vital to the flora and fauna in general but in particular for the rare sand lizard and Dartford warbler.

In a joint lecture by Mr. Cecil Pepin to B.N.S.S. and D.N.T. on Christchurch Town common he emphasised that much of the unique flora and fauna in the area consisted of a variety of habitats - bogs, pools, heathland, woodland and common land, upon which such varieties as smooth snakes, sand lizards, snipe and Dartford warblers depended. The ecological importance of The Town Common for the flora and fauna in many cases is interdependent.

Otters

The possible reasons for the sharp decline in numbers in England and Wales were pollution of waterways from agricultural and industrial effluents, oil spills in coastal areas, loss of habitat from drainage schemes and the destruction of river banks and adjacent herbage. Otters are secretive creatures needing plenty of cover.

Miss Bennetts described signs to look for of the presence of otters such as spraints (droppings), tracks, footprints and slides down stream and river banks. Chief food is coarse fish, crabs, crayfish, sticklebacks and some salmon and trout. Otterhavens and man-made holts are being experimentally set up in areas known to be favoured by or formerly so by otters.

The African elephant, (Africanus loxodonta) and the black rhino (Diceros bicornis Linn) were taken as examples of pachyderms (thick skinned). Excerpts from both species are mentioned here. After a gestation period of 18-22 months an elephant calf is born, weighing about 260 lbs and covered with a hairy covering of reddish brown. They are liable to attack from lions, cheetahs, leopards and hyaenas so must be well protected.

Black rhino (Diceros bicornis Linn) has 2 horns not of real horny material, but closely packed fibre-like hair growing from the skin in a slight hollow base on the skull, from which they can be detached. Normally both sexes have them. Anterior horn, the longer one rises from the nostrils, the posterior one almost over the eyes; upper lip prehensile for browsing.

The following is an excerpt on the Australian wildlife, in particular the marsupials. The occurrence of marsupials in Australia can be attributed to continental drift. Australia, like the rest of the continents, was originally part of Gondwanaland, but it broke away from the other continents quite early on in the process of continental drift: by the beginning of the Tertiary period about 75 million years ago when marsupials were found throughout the world.

Field Meetings

The majority of field meetings have taken place in the New Forest and Dorset. Nothing of special significance was recorded - other than a sighting of 85 fallow deer on one meeting (Mrs. M. Lund and Miss W. Davis' report). The 4 species of dee Red (Cervus elaphus) Fallow (Dama dama) of 4 colourations common, white, black, and menil (spotted coat is worn throughout the year). Roe (Capreolus capreolus) fewer were seen than in previous years - much felling in their usual habitats may be the reason. Sika (Cervus nippon) 21.9.82. Approx. 12 stags 8 hinds and 1 calf 1 stag had 3 hinds 3 stags together with some hinds - terrain makes accurate sightings difficult.

An interesting walk to study galls, led by Mrs. Mary Tiller, a guest leader provided 15 species. Galls arise as a result of parasite attack. They repressed the growth reaction of the plant to the parasite developing either as abnormally enlarged cells or as an abnormal increase in the number of plant cells. The parasite is the gall-cause, the plant is the gall-maker, as a result of stimulation by the gall-cause.

Miss K. MILNER BENNETTS, Chairman

Natural History

The wettish autumn of 1981 promised a good crop of fungi which due, no doubt, to the colder weather, failed to materialise. Although some rarer specimens were found, numbers and varieties were less than expected.

During the warmer summer of '82 the wild flowers thrived and had a good season leading to the situation where on one Botany outing in early August we saw, not only a great number and variety of flowering plants and an early "Autumn lady's tresses" (Spiranthes spiralis), but also 21 species of Butterfly including several Adonis Blue (L. bellargus) which have done well this year, as have the Painted Lady (V. cardui) and Red Admiral (V. atalanta); these latter two species being noticeable almost everywhere.

The Odonata, (Damsel and Dragonflies), gained benefit from the good weather increasing their number over last year's rather poor showing so that one hopes this will give them a good start to next year's season.

It was again evident that the Common Redstart (Phoenicurus phoenicurus),which was seen in most areas of the New Forest had a successful breeding season as they did last year, The Stonechat (Saxicola torquata) shows little sign of increasing to the level of several years ago, whilst the Spotted Flycatcher (Muscicapa striata) was noticeably absent from many of its usual haunts.

Finally,as the Autumn encroaches, it has been noted that the Fungi "Poor man's beefsteak" (Fistulina hepatica) is much more in evidence than in previous years.

R.G. Lees.

Zoology-Ornithology

The weather in the second half of December 1981 and the first part of the following January was very severe with heavy snowfalls in this part of the country. Many birds from fields and country-side came into gardens and coastal areas and it became common to hear from Members of siskins and brambling feeding regularly at tit-baskets and on wild bird seed, and to see fieldfare and redwing flying from tree to tree in suburban roads or looking for food on lawns or any stretch of grass cleared of snow. The Dartford warbler suffered very much in these conditions and numbers now are greatly reduced.

We were generally able to continue Field Meetings throughout the winter despite the weather, only one being postponed - a walk through the fields at Sopley and Avon in January - and this took place in February when a much-looked-forward-to meeting to Farlington Marshes had to be cancelled owing to the indisposition of the leader, Mr. George Parkinson. We hope however to go there this November.

Our coach trip to the Wildfowl Trust at Slimbridge took place in January in arctic conditions but we were able to see a record number of Bewick swans and many white-fronted geese on the saltings.

On April 1st we spent a particularly rewarding day at Keyhaven Marshes where we saw spotted redshank, greenshank, black-tailed godwit and ruff - all passage migrants on their way further north to breed.

It was pleasant to see the summer migrant birds arrive in April and to hear blackcaps and garden warblers with willow-warblers and chiffchaffs singing in the Thorncombe woods at the end of the month.

Miss Milner Bennetts, by special request, gave us a repeat of her most interesting lecture on the Birds of the Falkland Islands which in the event turned out to be most topical, and Mrs. Joyce Gray told us about a very rewarding ornithological holiday she had spent in Northumberland under the leadership of Mr. George Parkinson.

I should like to welcome all the new members who have joined us in Field Meetings during the year and to thank the members who have led Meetings for me - I cannot be too grateful to them for their assistance.

L.M. Maddox, Chairman.

Local Record List of Birds of Particular Interest

Slavonian grebe, Podoceps auritus. 8th December, Brands Bay.
White-fronted goose, Anser albifrons. Flock, 16th February, Sopley.
Long-tailed duck, Clangula hyemalis. 8th December,Brands Bay. 17th December, Gravel Pits.

Hen harrier, *Circus cyaneus*. 23rd March, Beaulieu Road.
Golden plover, *Charadrius apricarius*. 16th February, Sopley.
Sanderling, *Crocethia alba*. 17th April, Stanpit.
Spotted redshank, *Tringa erythropus*. 4, 1st April and 26th August, Keyhaven.
Greenshank, *Tringa nebularia*. 8th December, Brands Bay. 2nd February, Lepe.
1st. April and 26th. August, Keyhaven. 17th. August, Stanpit (6)
1st October, Radipole and Lodmore (12).
Black-tailed godwit, *Limosa limosa*. 27, 1st. April and 26th August, Keyhaven.
Whimbrel, *Numenius phaeopus*. 17th August, Stanpit. 26th August, Keyhaven.
Little gull, *Larus minutus*. 8 imm. 1st. October, Radipole.
Black tern, *Chlidonias niger*. 17th. August, Stanpit.
Barn owl, *Tyto alba*. 1st. April, Keyhaven.
Short-eared owl, *Asio flammeus*. 20th. November, Stanpit.
Little owl, *Athene noctua* . 14th September, Ninebarrow Down.
Tawny owl, *Strix aluco*. 5th March, Mark Ash Wood, 23rd. March Beaulieu Road.
Lesser Spotted woodpecker, *Dendrocopus minor*. 30th. June Beaulieu Road,
Wood lark, *Lullula arborea*. 30th. June, Beaulieu Road.
Yellow wagtail, *Motacilla flava*. 26th. August, Keyhaven. 3rd. September, Dibden Bay.
1st. October, Radipole.
Lesser Whitethroat, *Sylvia curruca*. 10th. June, Ackling Dyke. 3rd. September,
Dibden Bay.
Spotted flycatcher, *Muscicapa striata*. 30th. June, Beaulieu Road. 27th July,
Red Rise area. 3rd. September, Dibden Bay.
Whinchat, *Saxicola rubetra*. 14th. September, Ninebarrow Down.
Black Redstart, *Phoenicurus ochrurus*. 10th November, Shipstall Point.
Willow tit, *Parus atricapillus.* 23rd. April, Thorncombe Wood.
Siskin, *Carduelis spinus*. 16th February, Sopley.

Library

The Library was fortunate in acquiring over 100 books by donations and bequests this year and 5 new purchases were made.

The Library Committee wishes to thank all who have made presentations of books together with donations of periodicals and magazines.

The number of books borrowed has increased slightly to over 300 and the day to day running of the Library continues with the dedicated efforts of the Library personnel.

R.E. Harwood, Hon. Librarian.

Members Day

Members have once again shown their willingness to share their wide range of interests and talents and my thanks are due to them. Space does not allow of individual mention.

There have been two exhibitions, one for members to show their hobbies and another their cherished oriental possessions. Two "quiz" programmes, one serious, one less so. Childhood was recalled in August and in September members either reviewed books or read favourite passages from them. The latter was a new venture and proved successful.

Members' slides were as varied as usual. Those of field meetings revived memories as did Mrs. G.M. Thomas's account of the five-day Oxford one.

Five new members were shown round the premises in January, and in June members saw the newly tidied garden.

H.M. Dickinson, Chairman.

Museum

On May 6th and then again on May 11th we had two visits of children from Kinson Primary School. They were very intelligent and most appreciative. Each child shook hands with me when leaving. Our Open Day on Saturday, August 21st, was again most successful. Our thanks are due to all those who made it so.

Early next year (1983) Miss K.M. Bennetts and myself are hoping to conduct a party of members of the Bournemouth Natural Science Society to South Kensington, London, in order to visit the New Exhibition of "The Origin of Species". Recently, when I was in London, I visited the Natural History Museum in South Kensington and saw for myself what wonderful results had been accomplished by the clearing of the top two galleries and building many separate cubicles; each had a press button which when activated gave a running commentary on the specimens beautifully displayed in many separate glass compartments. We would hope to return by about 7.00 p.m.

W.A. Bray, Hon. Curator.

The Garden

We are most grateful to Mrs. Hunt for paying for the clearance of the borders. To show our gratitude I hope all those who can will help in the garden. We do need more helpers. Our thanks in particular go to Mrs. E.W. Nicklen, Mrs. R.E. Crane, Mr. Whielden, Mrs. Gandey, Mr. Huggins, Mr. Birch, Mr. Dain and Mr. and Mrs. Bentley and family.

Winsome Chomé

LECTURES, FIELD MEETINGS AND VISITS, 1981-82

General Chairman: Miss K.M. Bennetts

		Lecture	Lecturer
1982			
Feb.	24	Oxford	Mrs. G.M. Thomas
Mar.	6	Sir Richard Whittington and His Cat	Miss P. Winter
May	22	Glimpses of Australia Part II	
June	2	Winter Wonderland	Miss Mary Exton
June	21	The Life of Cherry Kearton	Mrs K. Lawrence
June	26	'The Seasons' An Anthology of the Year in Pictures, Music and Verse	Mr and Mrs Heales
Aug.	9	In My Greenhouse - Anecdotes and Origins	Rev. Stanley Dedman
Aug.	16	Ships of War from the time of the Dreadnought	H.P. Wheeler
Sept.	22	Over the Hills and Not Far Away in Dorset	Mrs. M. Arnold

ARCHAEOLOGY AND HISTORY Chairman: Graham Teasdill

1981

November	7th	An Archaeological Journey to Egypt (Old and Middle Kingdoms)	Miss M.W.S. Davis
December	19th	Canada revisited	W.H. Lee

1982

January	13th	The Oxford Field Meeting, Part 2	Mrs. G.M. Thomas
February	10th	The Shelley Connection with Boscombe	Miss Margaret Brown,M.B.E.
March	20th	Some Impressions of American History (Boston, New York, Washington, Chicago, San Francisco and Los Angeles)	W.V.K. Channon
April	17th	With the Domesday Book in Berkshire	H.L. Chaney
April	24th	Denmark, Ancient and Modern	Mrs. M.K. Parkinson, The President.
May	8th	The Defences of Christchurch	A.E.W. Gaston
June	12th	Hod and Hambledon Hills	Rev. D.E.C. Jardine
July	3rd	The Care of Historic Buildings	Miss P. Connington
July	12th	Hengistbury Head Excavations	Professor Barry Cunliffe
August	23rd	The Aborigines and the Maoris	Miss K.Milner Bennetts
September	1st	Afternoon - Buildings of Boscombe Evening - Hambledon Hill, A Neolithic Landscape	Graham Teasdill Roger J. Mercer

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1981

October	16th	Winchester-walkabout	F.R. Watson

1982

February	11th	Visit to the Casa Magni Shelley Museum	Miss Margaret Brown
June	16th	The Museum of London and St. Paul's Cathedral	Graham Teasdill
June	29th	Winchester Cathedral	F.R. Watson
September	29th	Portsmouth, Mary Rose, H.M.S. Victory and the Royal Naval Museum	Graham Teasdill

ASTRONOMY Chairman: Graeme Nash

1981

October	3rd	Support your Binoculars	Colin Pither F.R.A.S, F.I.L.S
November	14th	Auroras, Airglow and Meteors	Dr. Mike Hapgood

1982

January	16th	The Enigma of SS 433	Dr. Graham Pearce
Febuary	13th	Total Solar Eclipse	Adrian Owen
March	27th	Infra-Red Astronomy	Miss Julia Wilken B.Sc.

BOTANY Chairman: Mrs. S.A. Thomas.

1981			
November	18th	Mediterranean Wanderings PT2	Dr. T. Norman
December	9th	The Flowers of the Burren	Mr. & Mrs. D. Parish

1981			
October	6th	Holmsley Old Runway	R.G. Lees
October	22nd	Wootton Car Park	R.G. Lees

1982			
January	2nd	Dorset Wild Flowers	Miss A. Horsfall, M.A.
February	20th	Flowers of the Marble Mountain	Mr. Roy Lancaster
March	31st	Things Natural Med. Holidays	Mr. L.A. Withrington
April	14th	Gardens of the National Trust	Mrs. D. Farrell
May	5th	Umbelliferae - Memorial Lecture for the late Miss Balfour Browne	Mrs. A.K. Hunt, B.Sc
June	19th	Two Valleys in the Pyrenees	Dr. T.M. Bell
July	28th	Late Summer Flowering Plants	Mr. J. Lockwood, N.D.H.

1982			
February	23rd	Ladycross Lodge	R.G. Lees
March	9th	Holmsley Old Runway	R.G. Lees
March	30th	Perrywood Ivy Enclosure	J.G. Parkinson
April	6th	Wootton & Broadley	R.G. Lees
April	27th	Dancing Ledge	R.G. Lees
May	11th	Breamore	R.G. Lees
May	20th	Stour River & Canford	Mrs. S. Thomas
May	27th	Castle Hill, Cranborne	Mrs. B. Norton
June	1st	Charborough House Grounds	Mrs. S. Thomas
June	15th	Fontmell Down	Dr. T. Norman & R.G. Lees
June	22nd	Selborne	Mrs. S. Thomas / Lady Anne Brewis
June	25th	Ballard Down	R.G. Lees
July	8th	Corfe Common	G. Mouat & R.G. Lees
July	16th	Hod Hill	R.G. Lees
July	22nd	Bindon Hill	R.G. Lees
July	29th	Ackling Dyke	Mrs. M. Saunders
July	30th	Mr. & Mrs. Heales' Garden	Mrs. M.K. Parkinson
August	6th	Ulwell	R.G. Lees
August	12th	Ladycross Lodge	R.G. Lees
August	27th	Wootton	R.G. Lees
September	9th	Hartland Moor	Miss M. Blower / G. Mouat
September	16th	Chesil Beach	R.G. Lees
September	23rd	Badbury Rings	R.G. Lees
September	29th	Martin Down	R.G. Lees

GEOGRAPHY Chairman: Miss M.W.S. Davis

1981			
October	14th	Across Central Anatolia (Turkey)	Miss M.W.S. Davis
November	25th	Austria	Mr. F.B. Martin
December	12th	B.N.S.S. Slides of Old Bournemouth	Mr. F.R. Watson

1982			
January	27th	Trails in the Canadian Rockies	Mrs. J.F. Gray

GEOGRAPHY (Cont'd)

February	17th	Pot Luck Holiday	Mr. H.L. Chaney
February	27th	Some interesting facts about Taunton	Mr.F. Oldham
March	15th	Some aspects of Germany	Mr.F.B. Martin
April	3rd	The splendours of Florence & Venice	Mr.H.L. Edwards
May	1st	Australia	Col.A. Hemsley M.B.E.,T.D.
May	10th	A Journey thru Greece	Mrs.J.George
July	10th	Road to Morocco	Mr. K. Barnes
July	19th	Northern India & Nepal	Mr.K.M. Eames
July	31st	The Mayoral Visit to Hanchow	Deputy Mayor of Bournemouth Cllr. G.R. Anstee
August	11th	Northern Landscapes	Miss J. White
September	11th	Somalia	Mr. B.J. Phillips

1981			
October	9th	Riverside Walk	Mrs.W.O. Robins

1982			
March	26th	Riverside Walk & Town Common	Mrs. M. Saunders
June	18th	Walk - River Piddle, Wareham.	Mrs. M. Saunders & Mrs.M.S. Lund
August	3rd	Weald & Downland Open Air Museum and West Dean College & Gardens	Miss M.W.S. Davis

PHYSICS AND CHEMISTRY Chairman: T.A. Crawshaw

1981			
October	21st	Fluid Control and Filtration Techniques	B. Pike
November	28th	Plants and Animals are Closer than We Think	Dr. G.H.H. Ames
1982			
February	15th	Reactor Safety Systems	D.J. Tripp
March	10th	The Marchwood Geothermal Borehole	J. Turtle
March	17th	The Last 150 Years of Engineering	Ewen McEwen
April	21st	The History of Paints and Pigments	L.E. Colyer

PHOTOGRAPHY Chairman:

1981			
June	9th	Me and My Camera	W.J. Whitsed
November	11th	Basic Colour Photography	J.C. Mitton
December	5th	Moods of Nature	Miss Mary Exton
1982			
January	23rd	Canadian Escapade	Wally Symes (Poole Camera Club)
March	13th	Glimpses of Australia	Miss Sally Webster
October	11th	Photographic Tour of Boscombe	G. Teasdill

ZOOLOGY - ENTOMOLOGY Chairman:

1981

October	24th	Some Butterflies and other Insects in S. Africa	Miss M.M. Brooks
November	23rd	The Struggle for Insect Survival	S.C.S. Brown
December	14th	The Life Cycle of some Insects	S.C.S. Brown

1981

May	7th	Burbush	R.G. Lees
June	11th	New Forest	R.G. Lees
July	6th	Ballard Down	R.G. Lees
August	5th	Latchmore Bottom	R.G. Lees
August	24th	Burbush	R.G. Lees
September	7th	Ladycross Lodge	R.G. Lees

1982

January	20th	Dragonflies	Simon Davey
February	6th	Butterflies	Dr. Michael Adams
March	22nd	More S. African Butterflies and other Insects	Miss M.M. Brooks
May	15th	Problems in the Life of Insects	S.C.S. Brown

ZOOLOGY - MAMMALIA AND NATURAL HISTORY Chairman: Miss K.M. Bennetts

1981

October	12th	A Hot-Air Balloon Safari in Kenya	Miss K.M. Bennetts
December	30th	How Much do you Remember?	Miss K.M. Bennetts

1981

October	8th	Markway Hill Area	Mrs. M. Arnold and Miss K.M. Bennetts
October	20th	Holly Hatch Inclosure	Mrs. M. Arnold and Miss K.M. Bennetts
October	29th	Markway Inclosure	Mrs. M.S. Lund and Miss M.W.S. Davis
November	5th	Frame Heath and Perrywood Hasley	Mrs. M. Arnold and Miss K.M.Bennetts
November	12th	Anderwood	J.G. Parkinson
November	24th	Deer. New Forest	Mrs. L.V. Nicklen and Mrs. I.A. Beckwith
December	3rd	Dames Slough Inclosure	Mrs. M. Arnold and Miss K.M. Bennetts
December	15th	South Oakley	Miss E.Souter and Miss K.M. Bennetts

1982

January	18th	Conservation in Dorset Natural History	W.O. Copland
January	30th	Wildlife of Town Common ground Natural History	Cecil Pepin
April	28th	Otters	Miss K.M. Bennetts
June	5th	Hot-Air Ballooning in Kenya	Miss K.M. Bennetts
July	24th	Pachyderms Elephant and Rhino	Miss K.M. Bennetts
September	18th	Australian Wildlife	Miss K.M. Bennetts.

1982

January	15th	Holidays Hill	J.G. Parkinson
February	9th	Anderwood	Mrs. R. Crane and Miss K.M. Bennetts

ZOOLOGY - MAMMALIA AND NATURAL HISTORY (Cont'd)

February	25th	Deer	Mrs. M. Arnold and Miss K.M. Bennetts
March	12th	New Forest (Nat. History)	R.G. Lees
March	16th	Denny Lodge Area	Mrs. M. Arnold and Miss K.M. Bennetts
April	2nd	Braemore	Mrs. M. Arnold and Miss K.M. Bennetts
April	13th	Beaulieu and Denny Area (Nat. History)	R.G. Lees
April	22nd	Slufters and Ocknell Inclosures	Mrs. M.S. Lund and Miss M.W.S. Davis
May	6th	Pond Dipping Zoology	Dr. T.N. Bell and Miss C.F. Noll
May	13th	Spetisbury Area and Watercress Beds (Nat. History)	Mrs. H. Croad
May	21st	Pound Hill	Miss E. Souter and Miss K.M. Bennetts
May	26th	Coach to Cricket St. Thomas Wildlife Park	Miss K.M. Bennetts
June	3rd	Latchmore Bottom (Nat. History)	R.G. Lees
June	8th	Guss Common (Nat. History)	Mrs. R. Crane and Mrs. L.V. Nicklen
June	17th	Hengistbury Head (Nat. History)	Mark Holloway and Miss K.M. Bennetts
July	1st	Bolderwood/Bratley	Miss E. Souter and Miss K.M. Bennetts
July	15th	Rhinefield and Puttles Bridge Area	Miss K.M. Bennetts
August	10th	New Forest	Mrs. M. Arnold and Miss K.M. Bennetts
September	2nd	Perrywood Ivy Inclosure	J.G. Parkinson
September	4th	Holmsley Area	Mrs. Mary Tiller
September	20th	New Forest Pig Bush (Nat. History)	R.G. Lees
September	21st	Sika Deer	Miss K.M. Bennetts

ZOOLOGY - ORNITHOLOGY Chairman: Mrs. L.M. Maddox

1981			
October	31st	Wessex Birds	Sqd. Ldr. N.W. Orr
November	21st	The Birds of Studland Heath Nature Reserve	J.R. Cox, Warden
1982			
March	24th	Bamburgh, the Bass Rock and the Farne Islands	Mrs. J. Gray
May	19th	Birds of the Falkland Islands	Miss K.M. Bennetts

1981			
October	2nd	Ninebarrow Down	Mrs. L.M. Maddox
October	15th	Coward's Marsh and St. Catherine's Hill	Miss G. Hayball
November	10th	Shipstall Point, Arne	Mrs. L.M. Maddox
November	20th	Stanpit Marsh	J.G. Parkinson.
December	8th	Brands Bay	J.G. Parkinson
December	17th	Moyles Court	R.G. Lees
1982			
January	8th	Avon and Sopley	Mrs. L.M. Maddox
January	19th	A visit to the Wildfowl Trust, Slimbridge	Mrs. L.M. Maddox
Febuary	2nd	Sowley Pond and Lepe	R.G. Lees

ZOOLOGY - ORNITHOLOGY

February	16th	Farlington Marshes	J.G. Parkinson
March	5th	Mark Ash Wood	R.G. Lees
March	18th	Stanpit Marshes	J.G. Parkinson
March	23rd	Beaulieu Road	Mrs. L.M. Maddox
April	1st	Keyhaven	J.G. Parkinson
April	15th	Durlston Head	J.G. Parkinson
April	23rd	Thornecombe Nature Trail	Miss G. Hayball
May	14th	Winspit	Mrs. L.M. Maddox
May	18th	Stanpit Marshes	J.G. Parkinson
May	25th	Kingston Common	Mrs. L.M. Maddox
June	10th	Ackling Dyke	Mrs. M. Saunders
June	30th	Beaulieu Road	Mrs. L.M. Maddox
July	13th	Hampton Ridge	Mrs. L.M. Maddox
July	27th	Red Rise Area	J.G. Parkinson
August	17th	Stanpit Marshes	J.G. Parkinson
August	26th	Keyhaven Marshes	J.G. Parkinson
September	3rd	Dibden Bay	R.G. Lees
September	14th	Ninebarrow Down	Mrs. L.M. Maddox

MEMBERS' DAYS Chairman: Mrs. H. M. Dickinson

1981			
October	28th	Members' Slides	Members
November	16th	Flower and Bird "Quiz"	Mrs. S. Thomas Mrs. L.M. Maddox
December	16th	Oxford & Environs 1981 five day field meeting	Mrs. G.M. Thomas
1982			
January	11th	New Members' Day	The President
February	8th	Exhibition of Members' Handicrafts	Members
March	8th	Slides of Field meetings	Members
April	19th	"Know the Animals" - a frivolous "Quiz" on animal fiction, fact and fable	Mrs. E. Mayewska
May	12th	Mini Oriental Exhibition	Miss C.M. Jarrold and Members
June	21st	Round the garden at No. 39	Mrs. Hunt
July	21st	Members' Slides	Members
August	18th	Childhood Recollections	Mrs. K. Lawrence and Members
September	13th	Talks by members on books which have interested them	Members

BOURNEMOUTH NATURAL SCIENCE SOCIETY

List of Presidents (1903-1982)

1903-04	J.E. Beale (Mayor of Bournemouth)
1904-06	G.E.J. Crallan, M.A., M.B., M.R.C.S.
1906-07	H.J. Waddington, F.L.S.
1907-09	A. Ransome, M.A., M.D., F.R.C.P., F.R.S.
1909-10	A. Smith Woodward, D.SC., F.R.S., F.L.S., P.G.S.
1910-11	Dukinfield H. Scott, M.A., LL.D., F.R.S., F.L.S., F.G.S.
1911-13	Sir E. Ray Lankester, K.C.B., M.A., LL.D., F.R.S., F.L.S.
1913-16	Sir Daniel Morris, K.C.M.G., J.P., M.A., D.SC., D.C.L., F.L.S
1916-17	The Rt. Hon. the Earl of Malmesbury, D.L., J.P.
1917-18	Sir Jethro J.H. Teale, M.A., D.SC., LLD., F.R.S.
1918-20	Field Marshal Lord Grenfell of Kilvey, G.C.B., G.C.M.G., LL.D., F.S.A.
1920-21	Lt. Col. Sir David Prain, C.M.G., C.I.E., F.R.S.
1921-23	F.G. Penrose, M.D., F.R.C.P., F.Z.S., M.B.O.U.
1923-24	Sir F.W. Keeble, K.B.E., D.SC., F.R.S.
1924-26	Hubert Painter, B.SC., F.C.S.
1926-28	Heywood Sumner, F.S.A.
1928-29	Claude Lyon
1929-30	Professor F.O. Bower, D.SC., F.R.S.
1930-31	Henry Bury, M.A., F.L.S., F.G.S.
1931-32	Dukinfield H. Scott, M.A., LL.D., F.R.S., F.L.S., F.G.S.
1932-33	J.P. Williams-Freeman, M.D.
1933-34	Rev. F.C.R. Jourdain, M.A., F.Z.S., M.B.O.U.
1934-35	Sir F.W. Dyson, K.B.E, M.A., D.SC., LL.D., F.R.S., F.R.A.S.
1935-36	Henry Bury, M.A., F.L.S., F.G.S.
1936-37	Sir Harold Carpenter, M.A., D.SC., F.R.S.
1937-38	Professor John Cameron, M.D., D.SC., F.R.S.E.
1938-39	Professor G.D. Hale Carpenter, M.B.E., D.M., F.L.S., F.Z.S., F.R.E.S.
1939-40	W.G. Aitchison Robertson, M.D., D.SC., F.R.C.P., F.R.S.E.
1940-41	Rev. Professor M.C. Potter, M.A., D.SC., F.L.S.
1941-42	Inst.-Capt. M.A. Ainslie, R.N., M.A., F.R.A.S.
1942-43	William C. Simmons, B.SC., A.R.C.S., F.G.S.
1943-44	Professor S. Mangham, M.A.
1944-45	A.S. Hemmy, B.A., M.SC.
1945-46	J.F.N. Green, B.A., F.G.S.
1946-47	Lt.-Col. C.D. Drew, D.S.O., F.S.A.
1947-48	W.J. Woodhouse, A.C.P.
1948-49	Edward Hindle, M.A., D.SC., F.R.S., F.Z.S.
1949-50	Mrs. W. Boyd Watt, F.Z.S., M.B.O.U.
1950-51	Professor Sir R. A. Peters, M.C., M.A., M.D., F.R.S.
1951-52	Ernest Chambers, F.L.S.
1952-53	F. Williamson, F.R.HIST.S.
1953-54	H.E. Clarke, M.A., B.SC., F.R.I.C.
1954-55	W.J. Read, M.SC., F.R.I.C.
1955-56	W.S. Brown, B.SC.
1956-57	A.W. Legat, M.INST.C.E., M.I.S.E.
1957-58	D.A. Wray, PH.D., M.SC., F.G.S.
1958-59	Miss M.A.M. Penrose, B.SC.
1959-60	Miss D.M. Lowther, B.SC.
1960-61	James Fisher, M.A., F.L.S., F.Z.S.
1961-62	W.P. Winter, B.SC.
1962-63	F.H. Perring, PH.D., M.A.
1963-64	Miss F.M. Exton, B.A.
1964-65	Dame Kathleen Lonsdale, D.B.E., D.SC., F.R.S.
1965-66	A.J. Butcher, F.R.I.B.A.
1966-67	Mrs. A.K. Hunt, B.SC.
1967-68	Professor F. Hodson, PH.D., B.SC., F.G.S.
1968-69	T. Marshall Bell, B.A., M.B., B.CH.
1969-70	Ernest Chambers, F.L.S.
1970-71	Graham Teasdill, F.M.A., F.R.S.A., F.R.N.S., F.Z.S.
1971-72	Miss Ursula M. Ogle
1972-73	Sqd.-Ldr. J.L.C. Banks.

1973-74	Miss K. Milner Bennetts, F.Z.S.
1974-75	Donn Small, M.SC.
1975-76	S.C.S. Brown, F.D.S., R.C.S., L.D.S.
1976-77	F. Oldham, J.P., M.A., B.SC., F.INST.P.
1977-78	W.H. Lee
1978-79	Mrs. G.M. Thomas, M.A., B.LITT.
1979-80	T.A. Crawshaw, F.M.INST.M.C.
1980-81	Miss M.M. Brooks, PH.C., M.P.S., F.R.S.H., F.R.E.S.
1981-82	Mrs. M.K. Parkinson
1982-83	Miss K. Milner Bennetts, F.Z.S.

Publications Received

The following publications were received in the Library during the year. Some of them were gifts from members who subscribe personally to the particular Society. The Library Committee are glad to record their appreciation of such gifts.

1. Publications issued by a Society or Institution.

Birmingham Natural History & Philosophical Society-Proceedings.
Botanical Society of the British Isles- (1) Watsonia, (2) Proceedings.
Bristol Naturalists' Society-Proceedings
British Trust for Ornithology- (1) News Bulletin, (2) Bird Study.
California Academy of Sciences-Proceedings.
Cambridge Antiquarian Society-Proceedings.
Dorset Natural History & Archaeological Society-Proceedings.
Hampshire Field Club & Archaeological Society-Proceedings.
Hampshire & Isle of Wight Naturalists' Trust Ltd.-Proceedings.
Hertford Natural History Society-Transactions.
National Trust-Newsletter.
Royal Horticultural Society-"Gardens".
Royal Society for the Protection of the Birds-"Birds".
Senckenbergische Naturforschende Gesellschaft-"Natur & Museum".
Smithsonian Institution, U.S.A.-Annual Report.
Societé Jersaise-Annual Bulletin.
Torquay Natural History Society-Transactions & Proceedings.
Upsala University, Sweden-Acta Phytogeographical Suecica
Zoological Society of London.

2. Periodicals received.

"Nature", The Dorset Magazine, The New Scientist, Chemistry in Britain.
Alpine Garden Society Bulletin, Oryx, Proceedings Geologists Association.

Printed by Sinclair Print, 396 Ashley Road, Parkstone, Poole, Dorset